



Faculty of Science



# IT Security:

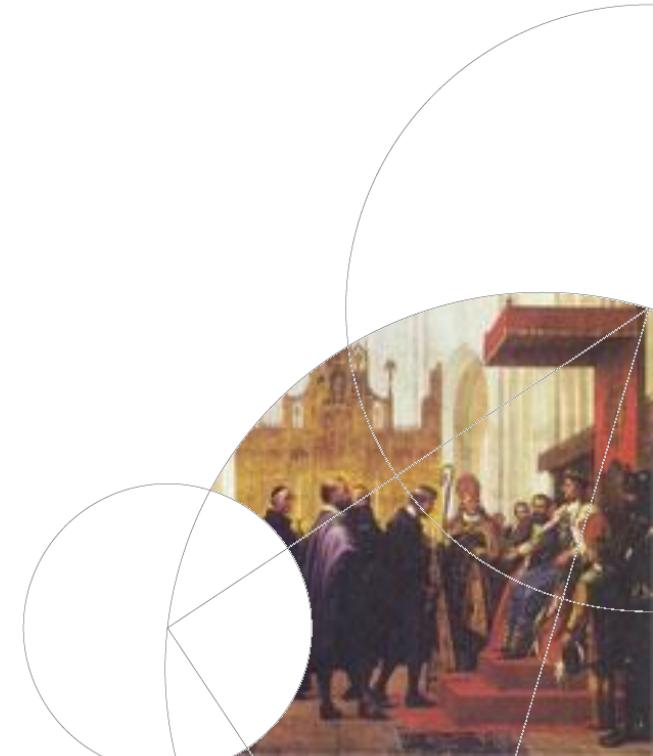
## Privacy/Data Protection – part 1

### Advertising tracking

### Security Usability

Carsten Jørgensen  
Department of Computer Science

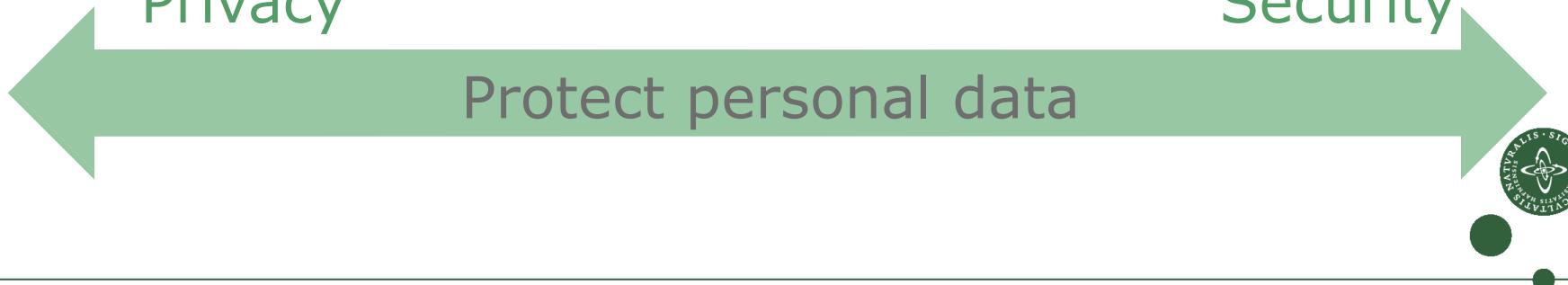
24. oktober 2021



# Privacy/data protection and security

Privacy

Security



# EU Charter of Fundamental Rights

## *Article 7*

### **Respect for private and family life**

Everyone has the right to respect for his or her private and family life, home and communications.

## *Article 8*

### **Protection of personal data**

1. Everyone has the right to the protection of personal data concerning him or her.
  
2. Such data must be processed fairly for specified purposes and on the basis of the consent of the person concerned or some other legitimate basis laid down by law. Everyone has the right of access to data which has been collected concerning him or her, and the right to have it rectified.
  
3. Compliance with these rules shall be subject to control by an independent authority.



# Den Europæiske Unions Charter om Grundlæggende Rettigheder

## Artikel 7 Charter: Respekt for privatliv og familieliv

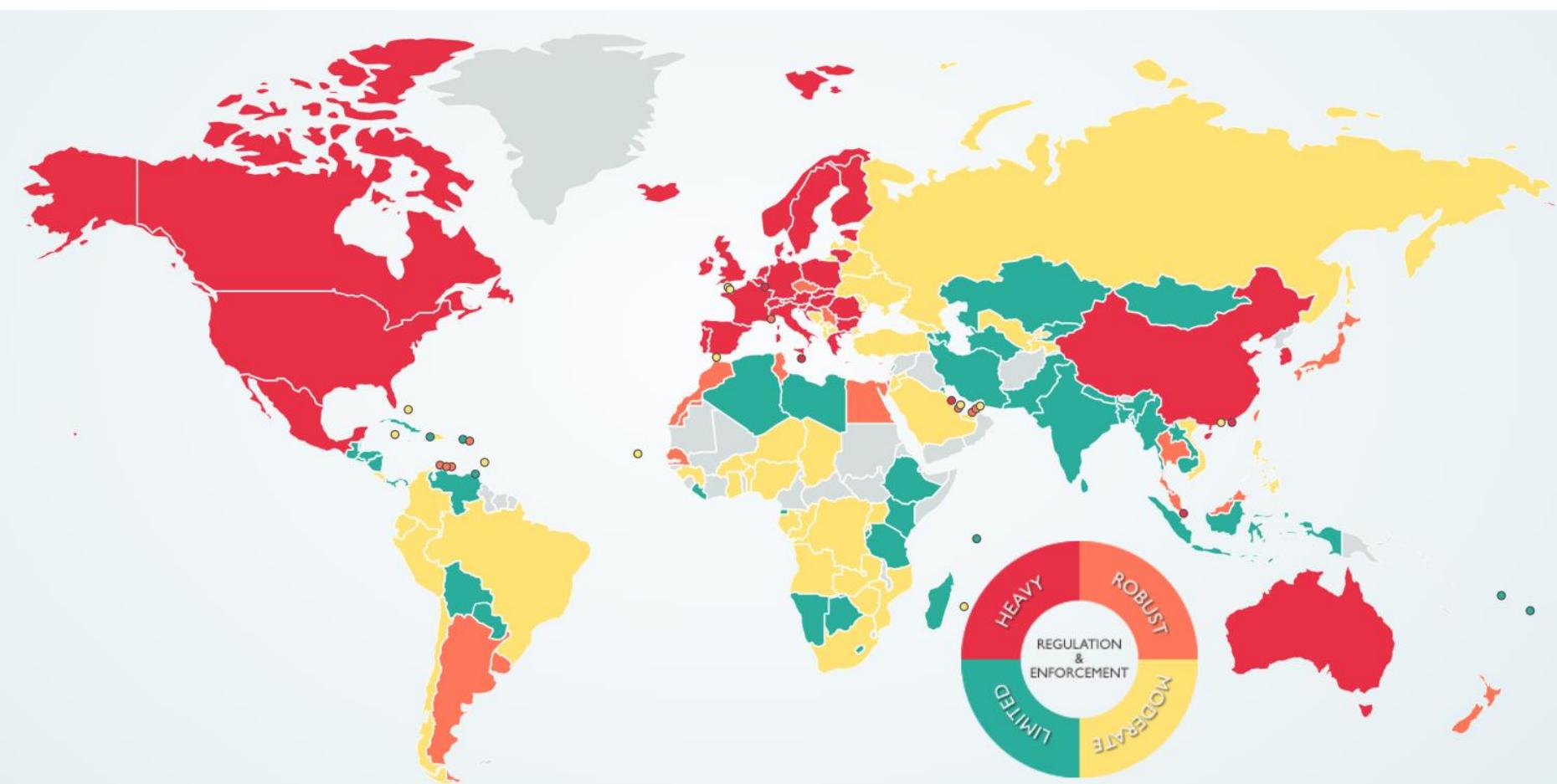
Enhver har ret til respekt for sit privatliv og familieliv, sit hjem og sin kommunikation.

## Artikel 8 Charter: Beskyttelse af personoplysninger

1. Enhver har ret til beskyttelse af personoplysninger, der vedrører den pågældende.
2. Disse oplysninger skal behandles rimeligt, til udtrykkeligt angivne formål og på grundlag af de berørte personers samtykke eller på et andet berettiget ved lov fastsat grundlag. Enhver har ret til adgang til indsamlede oplysninger, der vedrører den pågældende, og til berigtigelse heraf.
3. Overholdelsen af disse regler er underlagt en uafhængig myndigheds kontrol.



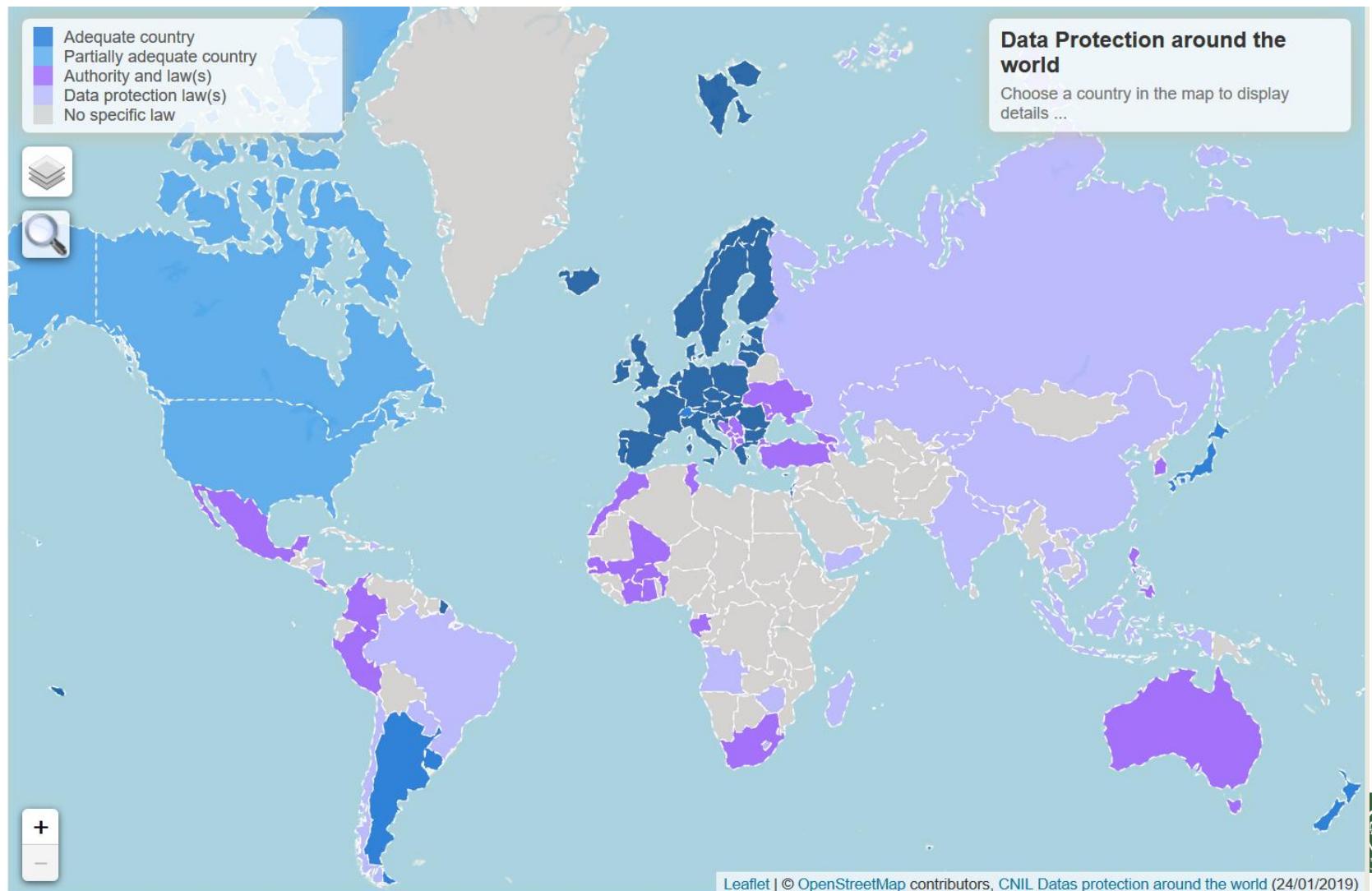
# Privacy lovgivning - verden rundt



[https://www.dlapiperdataprotection.com/#handbook/world-map-section/c1\\_MT](https://www.dlapiperdataprotection.com/#handbook/world-map-section/c1_MT)



# Privacy lovgivning - verden rundt



# Privacy lovgivning



Canada



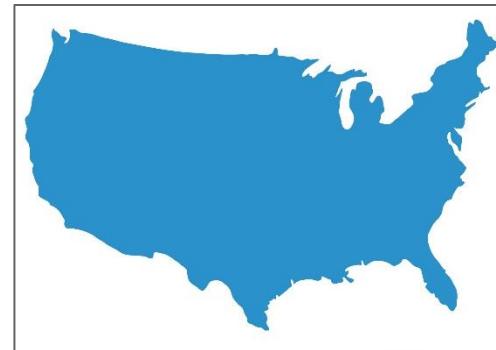
EU



Hong Kong



Mexico



USA



# Privacy lovgivning - udvikling

**Mid 1970s**

U.S. Privacy  
Act  
  
Early  
European  
laws

**1980s**

OECD  
principles

**1980 –  
1990s**

Direct  
marketing  
Tele-  
marketing  
Do Not Call  
list

**2000s**

Identity  
theft  
becomes  
a  
concern

**2010s**

Social media  
Cloud  
computing  
Online ads  
Location-  
based  
services  
GDPR



## Trusler imod privacy

Forlegenhed  
Uværdighed ved udstillelse

Bruger/kunde-profilering  
Samkøring  
Identitetstyveri  
IT sikkerhed  
Osv, osv, osv

Vil du accepterer pris differencering?

I'm Feeling Lucky



## Privacy

Privacy drejer sig om kontrol over data:

Hvem får data, hvordan bliver det brugt, gemmer  
de det, hvem bliver data delt med og kan man få  
det slettet/hvornår bliver det slettet



C  
D  
  
SS

Chronik

Historik

Udvidels

Indstillin

Hjælp

## Ansvarlig brug af dine data

Berlingske Media A/S anvender cookies på b.dk, business.dk og aok.dk, for at tilpasse indhold, funktioner og annoncer og analysere trafikken. Vores partnere kan også anvende cookies til brug for målrettet annoncering. Ved at klikke OK giver du samtykke til Berlingske Media og tredjeparters anvendelse af cookies på ovennævnte domæner. Du kan altid tilbagekalde dit samtykke.

OK[Indstillinger](#)

### Cookiedeklaration

 Nødvendig (51) Præferencer (10) Statistik (94) Marketing (325) Uklassificeret (177)

### Om cookies

Nødvendige cookies hjælper med at gøre en hjemmeside brugbar ved at aktivere grundlæggende funktioner såsom side-navigation og adgang til sikre områder af hjemmesiden. Hjemmesiden kan ikke fungere ordentligt uden disse cookies.

Navn	Udbyder	Formål	Udløb	Type
CookieConsent	m.aok.dk abonnement.bus business.dk abonnement.b.d aok.dk	Gemmer brugerens cookie- samtykke- tilstand for det	1 år	HTTP

Cookiedeklarationen er sidst opdateret d. 10-09-2018 af [Cookiebot](#)



# Privacy / Data Protection

**B**

## Ansvarlig brug af dine data

Berlingske Media A/S lagrer og anvender cookies på [www.berlingske.dk](http://www.berlingske.dk) med bruger-identifikation i din browser for at tilpasse indhold, funktioner og annoncer og analysere trafikken. Vores partnere kan også anvende cookies og persondata såsom IP-nummer til brug for målrettet annoncering. Ved at klikke OK giver du samtykke til Berlingske Media og tredjeparters anvendelse af cookies og persondata. Du kan altid tilbagekalde dit samtykke fra cookie-deklarationen nederst på siden.

OK

Indstillinger

[Cookie-deklaration](#) [Annonce-indstillinger](#) [Om cookies](#)

Vi og vores annonce-partnere behandler dine persondata ved hjælp af teknologi som f.eks. cookies, med henblik på at levere annoncer, analysere trafik og levere tilpassede oplevelser til dig. Du kan vælge, hvem der må bruge dine data, og til hvilke formål.

**FORMÅL**[TILVÆLG ALLE | FRAVÆLG ALLE](#)

Med udgangspunkt i nedenstående formål kan du angive dine samtykkeindstillinger og bestemme, hvordan dine data må blive anvendt. Der er en beskrivelse til hvert formål, så du

Cookie-deklarationen er sidst opdateret d. 08-10-2019 af [Cookiebot](#)**B**

## Ansvarlig brug af dine data

Berlingske Media A/S lagrer og anvender cookies på [www.berlingske.dk](http://www.berlingske.dk) med bruger-identifikation i din browser for at tilpasse indhold, funktioner og annoncer og analysere trafikken. Vores partnere kan også anvende cookies og persondata såsom IP-nummer til brug for målrettet annoncering. Ved at klikke OK giver du samtykke til Berlingske Media og tredjeparters anvendelse af cookies og persondata. Du kan altid tilbagekalde dit samtykke fra cookie-deklarationen nederst på siden.

OK

Indstillinger

[Cookie-deklaration](#) [Annonce-indstillinger](#) [Om cookies](#)
**TREDJEPARTSLEVERANDØRER**[TILVÆLG ALLE | FRAVÆLG ALLE](#)

Du kan angive samtykkeindstillinger for hver enkelt tredjepartsvirksomhed nedenfor. Du kan for hver virksomhed se, hvad de bruger data til, så du bedre kan træffe dine valg. I visse tilfælde offentliggør virksomheder, at de, baseret på deres legitime interesser, bruger dine data uden at bede om dit samtykke. Du kan klikke på de relevante politikker for beskyttelse af personoplysninger for at få flere oplysninger og for at fravælge.

 Tappx
Cookie-deklarationen er sidst opdateret d. 08-10-2019 af [Cookiebot](#)

# Privacy udvikling

**YouTube Help (2011)**

**Protecting Your Privacy**

**Quick Tips:**

- Never post things like your name, phone number or where you live.
- Prevent privacy trouble before it starts. Once your privacy has been compromised, you might not be able to undo the damage.
- If you come across a video that you think violates your privacy, contact the uploader first and ask them to remove the content.
- YouTube employees will never ask you for your password, email address, or other account information. Don't be fooled if someone does.
- Posting someone else's personal information without their permission is a serious violation of our Community Guidelines and could get you suspended.

**What is Protecting your Privacy?**

Protecting your privacy means that you are taking care not to post personal information that could result in you being harmed over the internet.

**YouTube Help (2013)**

**Start using your full name on YouTube**

**1. How you'll appear**   **2. Review your content**   **3. Update complete**

**How you appear now**   **How you'll appear after**

1337\_megahacker   Lewis C. Skolnick  
From your Google+ profile

You can still use your username to sign in, and links to your channel will not change. Show more»

I don't want to use my full name   Next

2011

2013



## Privacy er mange ting

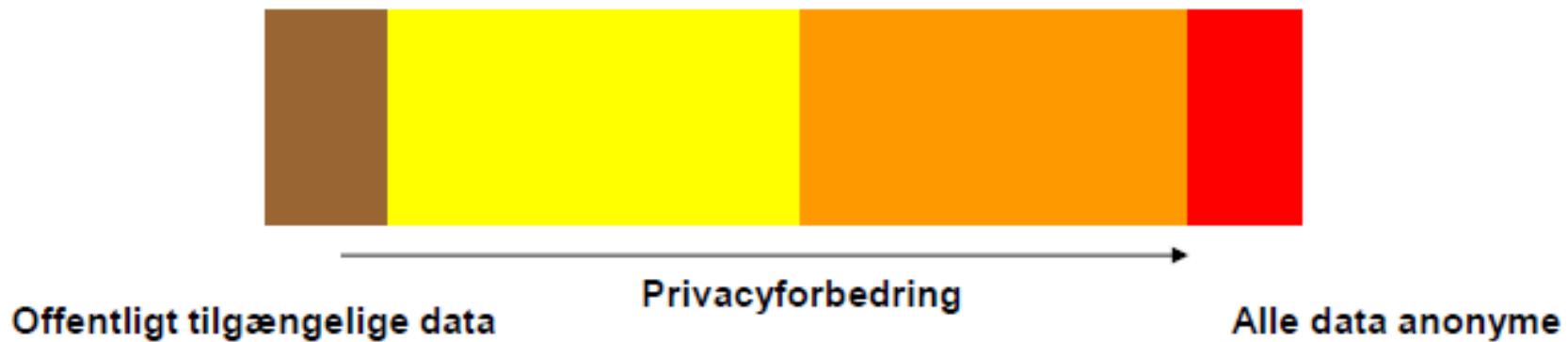
Der kan være mange gode grunde til at man ønsker at beskytte sit privatliv, også udover reklame-sporing

Fra journalister til jurister til rent principielt

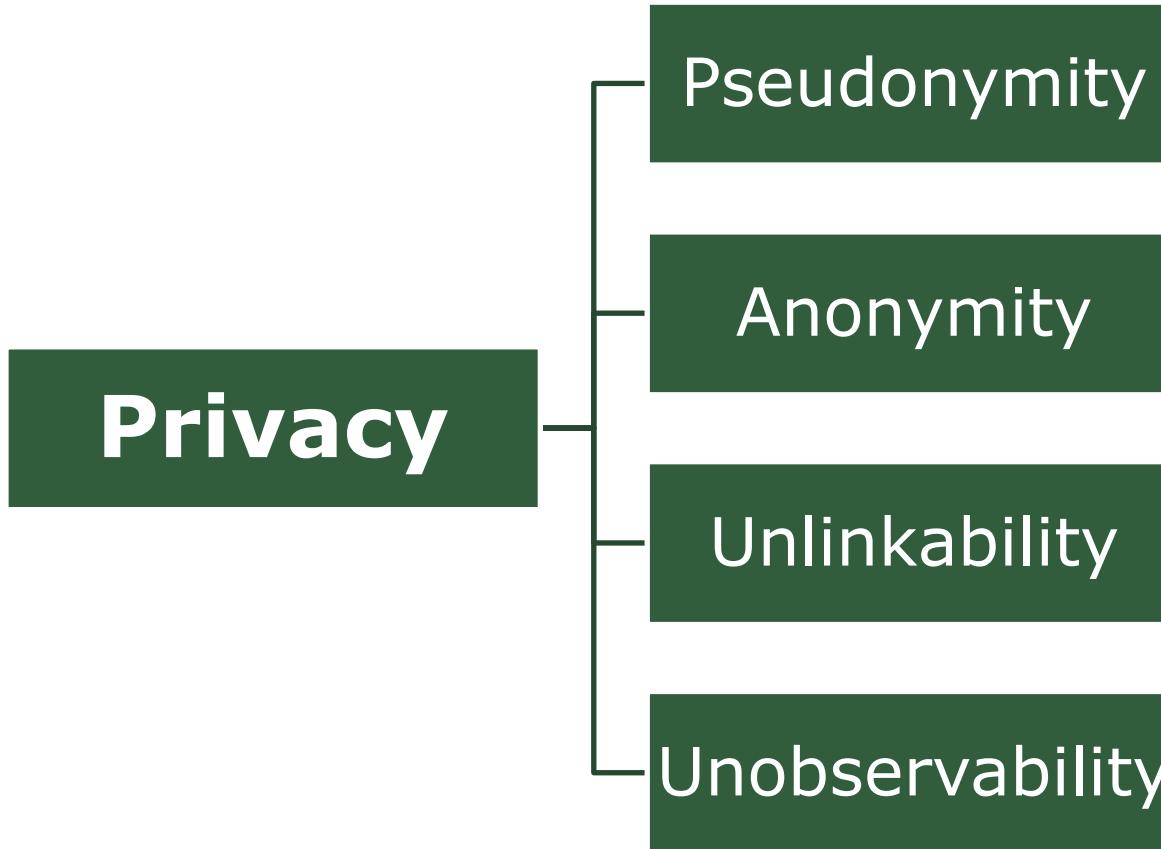


## Privacy model (threat model)

# Model for privacy



## Privacy i Common Criteria



Common Criteria Privacy Classes



## Unobservability

### Risikovurderingen:

Hvem skal man beskytte sig imod?  
Hvilke ressourcer har de til rådighed?  
Uheld eller bevidst angreb?

### Privacy

Anonymity

Pseudonymity

Unlinkability

Unobservability



# What is your threat model?

<b>Threat</b>	Ex-girlfriend/boyfriend breaking into your email account and publicly releasing your correspondence with the My Little Pony fan club	Organized criminals breaking into your email account and sending spam using your identity	The Mossad doing Mossad things with your email account
<b>Solution</b>	Strong passwords	Strong passwords + common sense (don't click on unsolicited herbal Viagra ads that result in keyloggers and sorrow)	<ul style="list-style-type: none"> <li>◆ Magical amulets?</li> <li>◆ Fake your own death, move into a submarine?</li> <li>◆ YOU'RE STILL GONNA BE MOSSAD'ED UPON</li> </ul>

Figure 1: Threat models

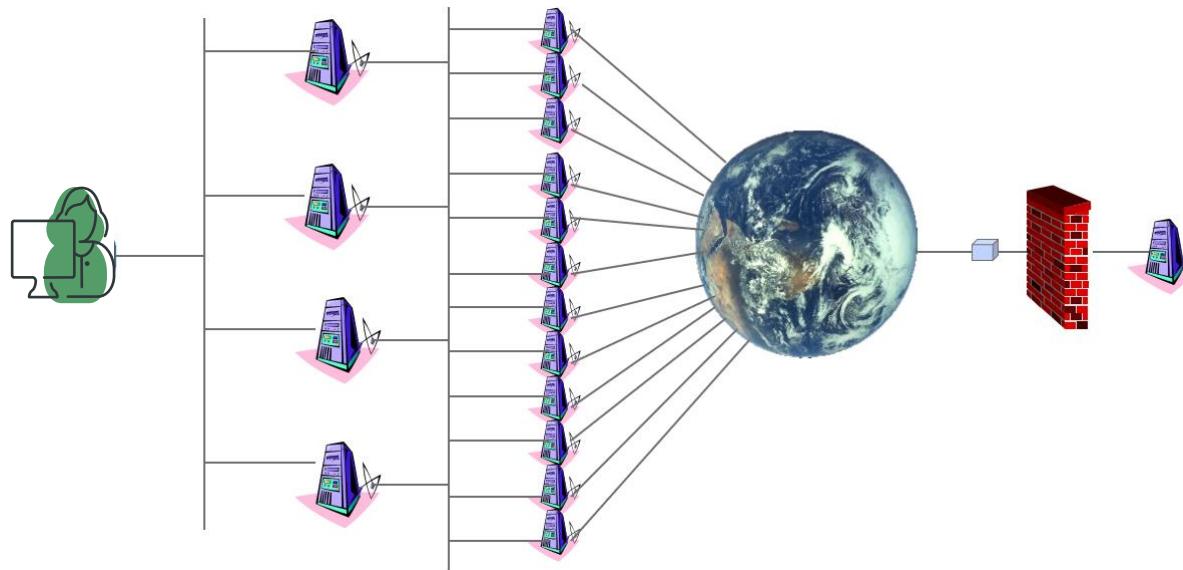


# Et par eksempler



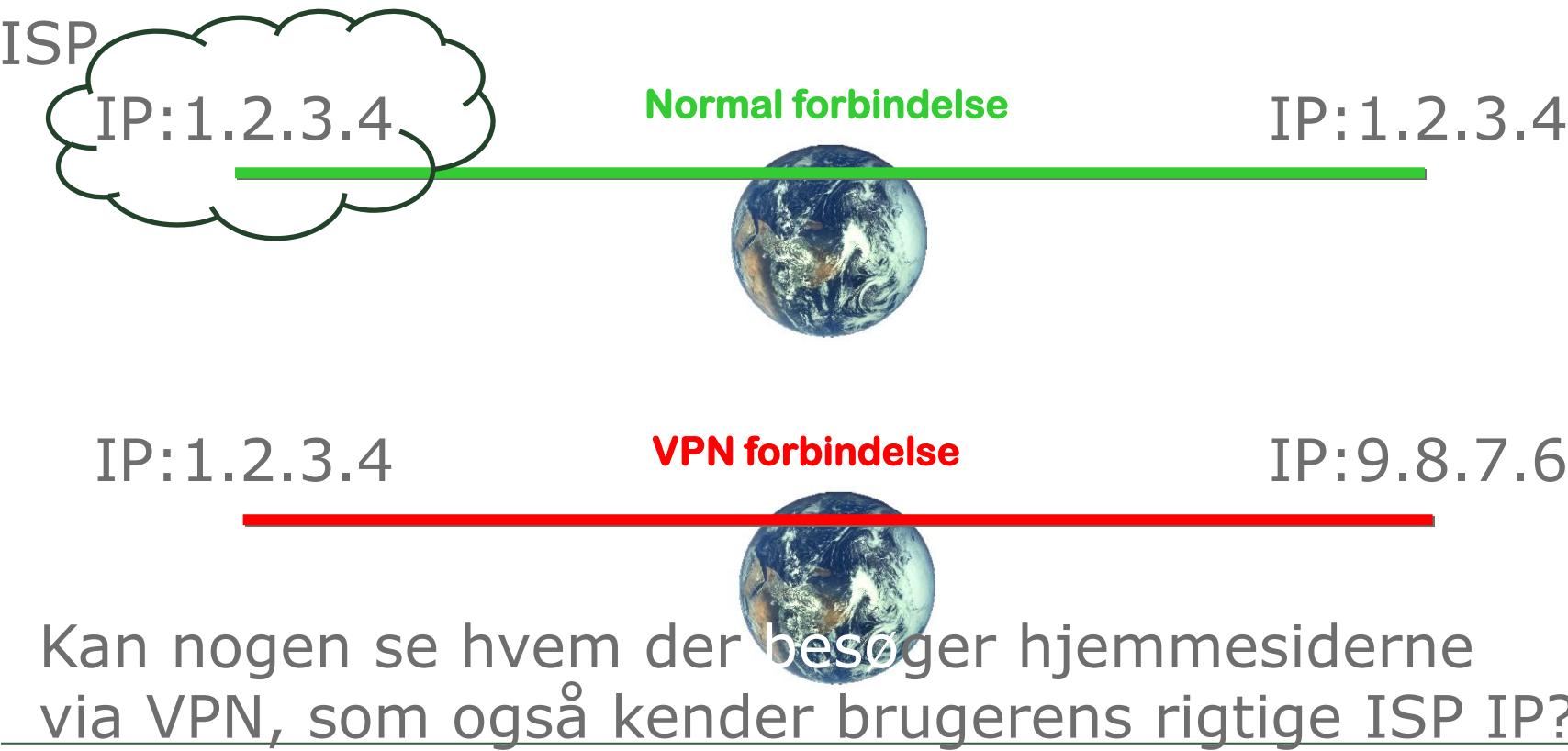
# Proxies, VPN, onion routing, mix cascades, DC-nets, covert traffic – og meget mere

- Proxies
- Covert traffic



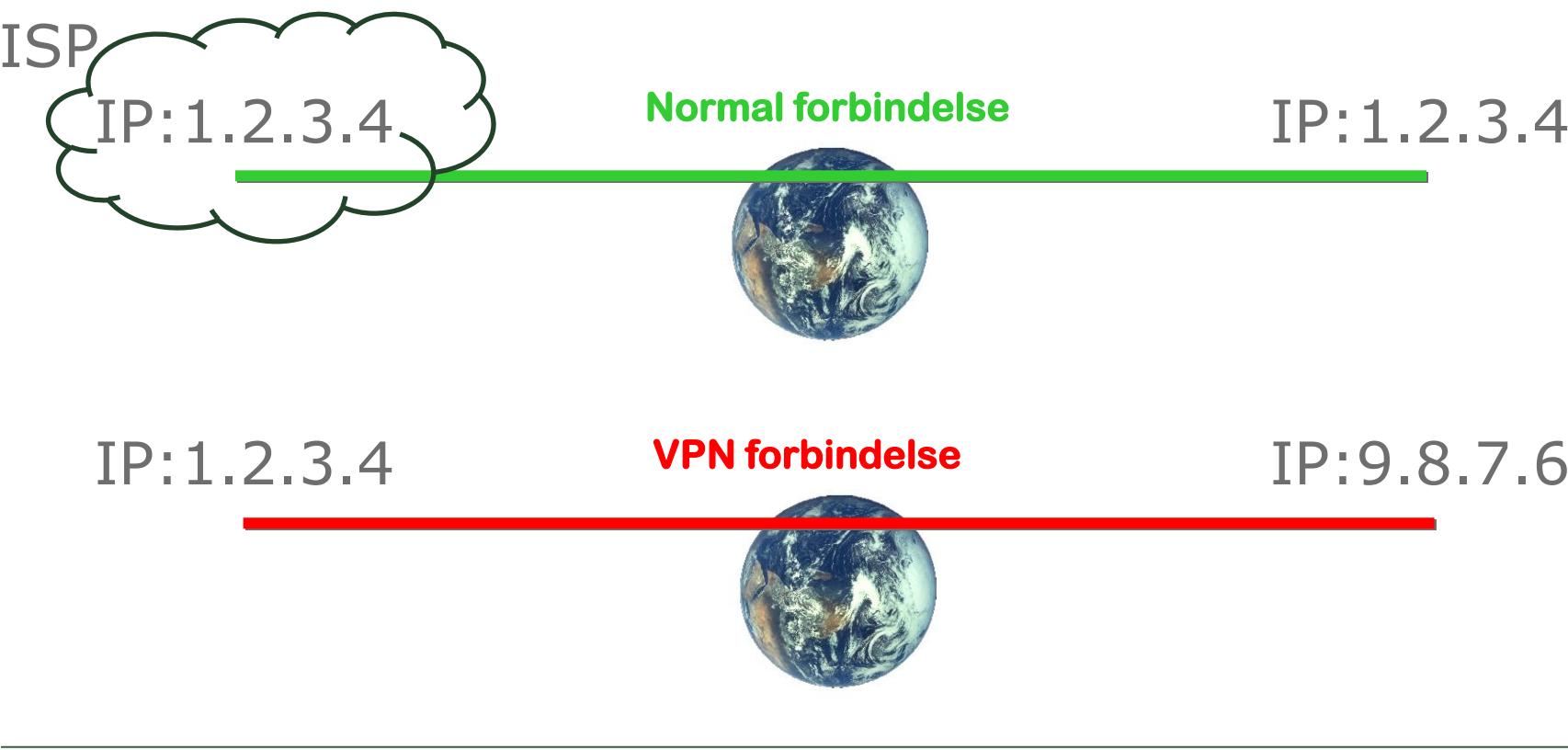
## VPN og "unobservability"

Krypteret forbindelse mellem brugerens enhed og  
VPN udbyderens server



## VPN og "unobservability"

VPNs encrypt traffic between you and your (trusted) VPN provider, offering protection from ISPs and local network threats

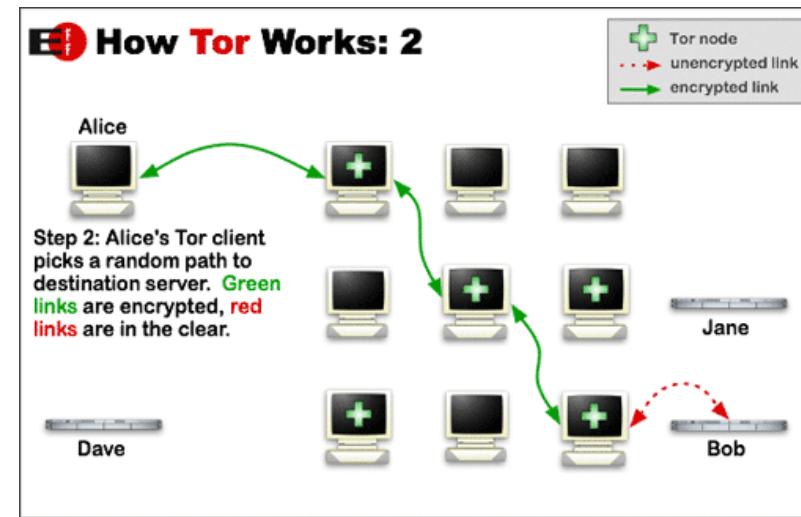


The screenshot shows the Tor Browser 3.5.3-Windows interface. The title bar says "TorBrowser" and the address bar shows "about:tor". A large green onion logo is on the left. The main content area features a large green "Congratulations!" heading, followed by the text "This browser is configured to use Tor." and "You are now free to browse the Internet anonymously." Below this is a link "[Test Tor Network Settings](#)". There is a search bar with a magnifying glass icon and the placeholder text "Search securely with Startpage.". Two callout boxes are present: one on the left titled "What Next?" containing text about staying anonymous and a link "[Tips On Staying Anonymous »](#)"; and one on the right titled "You Can Help!" containing text about helping the Tor Project and a list of three links: "[Run a Tor Relay Node »](#)", "[Volunteer Your Services »](#)", and "[Make a Donation »](#)". At the bottom, it says "The Tor Project is a US 501(c)(3) non-profit dedicated to the research, development, and education of online anonymity and privacy. [Learn more about The Tor Project »](#)". The taskbar at the bottom includes icons for Start, Internet Explorer, File Explorer, Media Player, and Task View, along with system status icons. The date and time in the bottom right corner are "3/20/2014 1:11 AM".

## Tor – Onion Router

Hver node kender kun foregående og  
efterfølgende node  
Ingen node kender hele ruten

Ulemper ?



## Tor – Onion Router

### Ulempem:

Performance, fingerprints, afledt information  
Malicious exit nodes

---

 the grugq retweeted

**Nick DePetrillo** @nickdepetrillo · 13 hrs

Tor is a great way to signal to anyone sniffing your traffic that you think you're important.

33 31 ...

---

 **Dan Guido** @dguido · 2h

Replies to [@dguido](#)

Chances are:

- 1) you don't need Tor
- 2) you don't understand the risks of using it
- 3) you're better off with a VPN, like [@AlgoVPN](#)



## Who does what?

**HTTPS:** Encrypts traffic to/from a specific website

**VPN:** Encrypts traffic to/from your (trusted) VPN provider

**Tor:** Tries to anonymize your traffic

Beskytter VPN imod identifikation hos en tjeneste udbyder vha cookies?



Tænk f.eks. flybilletter



## Security goals – Authentication and encryption

Encrypt and authenticate individual emails *using certificates*:

**S/MIME** (Secure/Multipurpose Internet Mail Extensions)

**PGP** (Pretty Good Privacy)

<http://openpgp.org>, <http://www.gnupg.org>

**DKIM** (DomainKeys Identified Mail)

Each mail signed by public key announced by DNS

Authenticates the mail originates from the domain owner

**SPF** (Sender Policy Framework)

Authenticates the mail claiming to come from specific domain is submitted from an IP-address announced in DNS

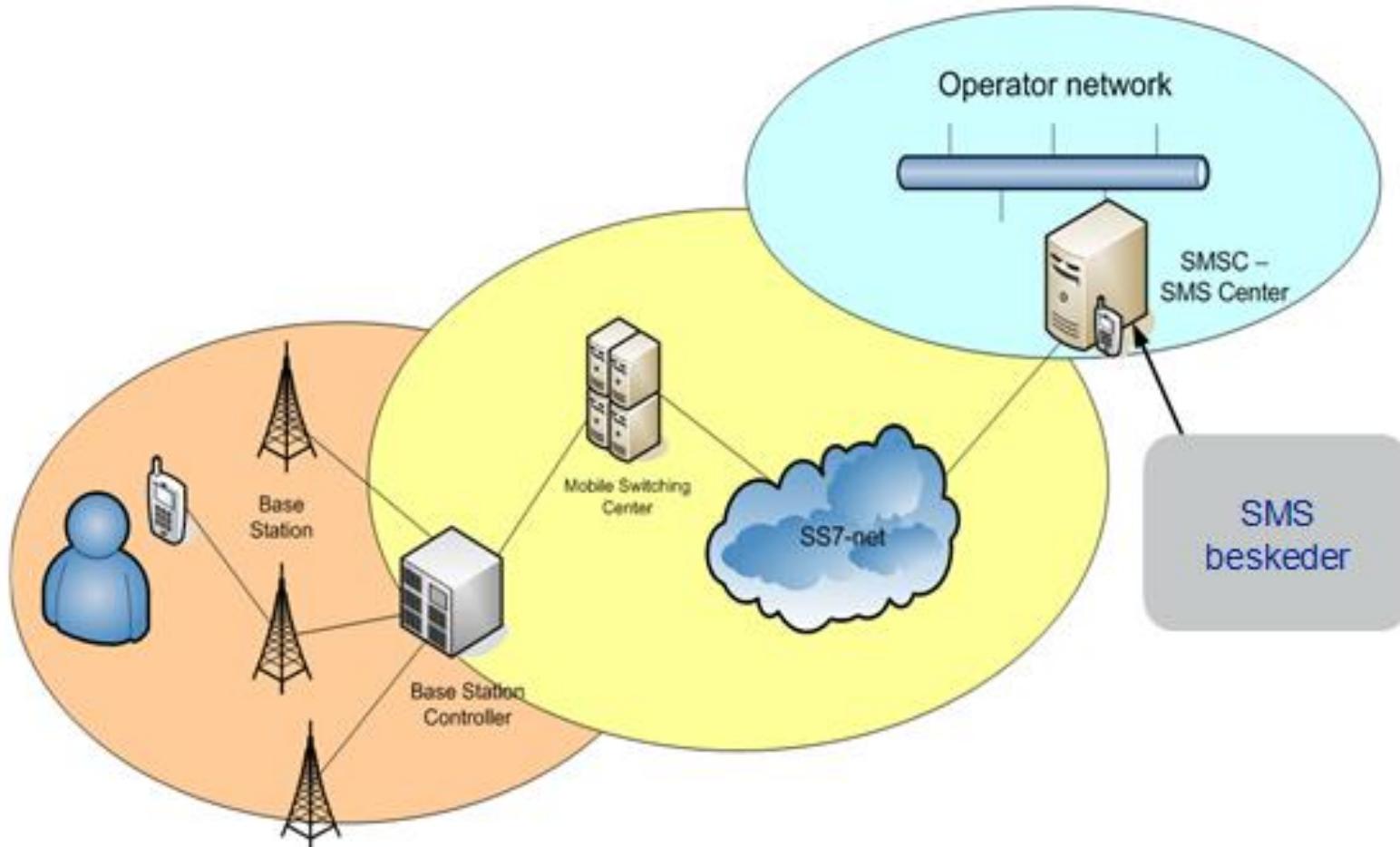


## Security goals - Anonymous Email og remailers

- “Anonymous” remailers (f.eks. Gmail og Hushmail)
- Chainable remailers (Type I)
- Mixmaster remailer (Type II og III) –  
    Security Target is Unobservability

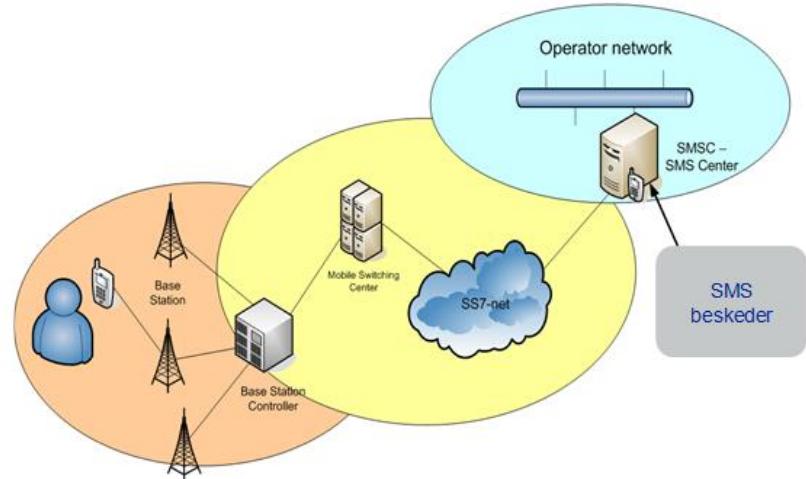


# Telefoner og SMS



## Telefoner og SMS

Kryptering kræver (ens) udstyr hos begge endpoints



Krypterede samtaler og SMS  
f.eks. Signal - <https://signal.org>

Moxie Marlinspike  
<http://thoughtcrime.org>



## OTR - Off-the-Record

Off-the-Record (OTR) Chat

<http://www.cypherpunks.ca/otr>

Tails: The Amnesic Incognito Live System



## Privacy

- Duckduckgo (and other) search engines
- “In-private/private browsing”
- Ad blockers

Beskyttelse imod reklame netværk



## Spørgsmål...

Hvor mange af jer:

- Klikker ok til alle cookie popups?
- Bruger en ad-blocker?
- Ser på privacy settings inden i downloader en app til telefonen?



## Bruger profilering

**Hvad er kommercial bruger profilering –  
og er det egentlig et problem?**

Eller – hvordan ved alle hjemmesiderne  
pludseligt, at i vil købe en ny cykel?



# Ikke noget nyt

The screenshot shows the TV 2 Media website. At the top, there's a navigation bar with the TV 2 logo, 'Media' (highlighted in red), 'Produkter', 'Services', 'Nyheder', 'Cases', and 'Kont'. Below the navigation is a large image of a man in a suit. To the left of the image, the headline 'Direktører ser TV 2 NEWS' is displayed in large white text. Below the headline is a text snippet: 'Hver dag tænder 11.100 danske direktører for vores nyhedskanal, og i løbet af en uge når vi hele 71% af cheferne. De kan oven i købet lide det, de ser.' A button labeled 'Se analyse' is visible on the left. The main content area below the image contains a summary of the analysis.

Direktører ser TV 2 NEWS

Hver dag tænder 11.100 danske direktører for vores nyhedskanal, og i løbet af en uge når vi hele 71% af cheferne. De kan oven i købet lide det, de ser.

Se analyse

En analyse, der er foretaget af OmnicomMediaGroup, viser nemlig, at TV 2 NEWS har godt fat i de danske direktører: Mere end en tredjedel tuner dagligt ind, og i løbet af en uge, når TV 2 NEWS tæt på 3/4. De direktører, der ser TV 2 NEWS, ligner gennemsnittet af danske ledere – både i forhold til kønsfordeling, indtjening og alder: Flest mænd med høje indtægter i alderen 30 til 65 år.



# Politiken

SENESTE

F0  
02

F0  
05

F0  
C9

Annonce

FORBRUGERELEKTRONIK 10. MAJ. 2014 KL. 11.55

## Artikel om foto / kameraer



Annoncer

Javascript  
der loader  
reklame  
blokke

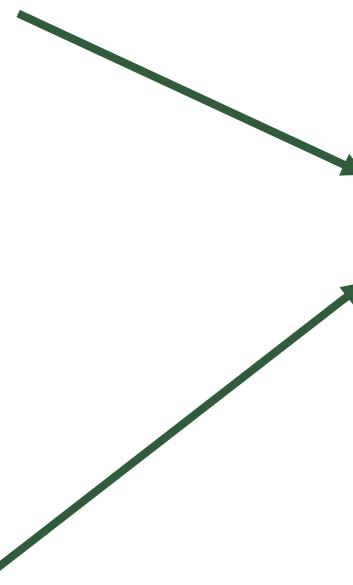
## Besøg på en hjemmeside

Artikel om foto / kameraer

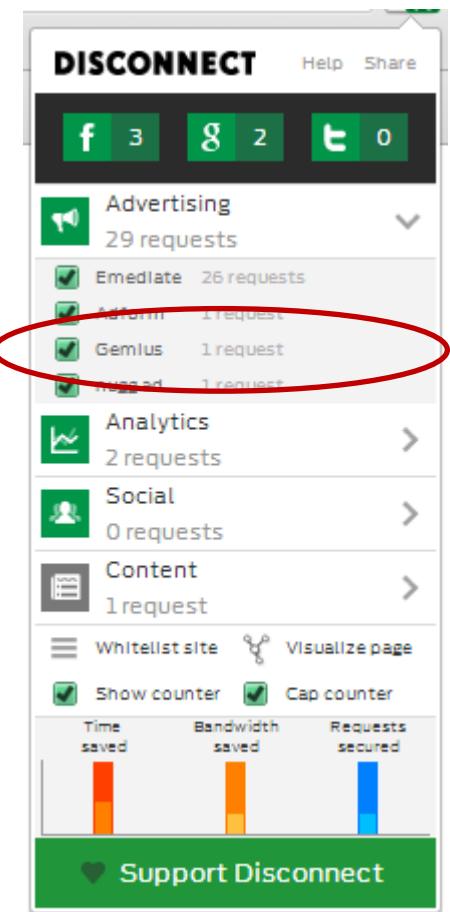
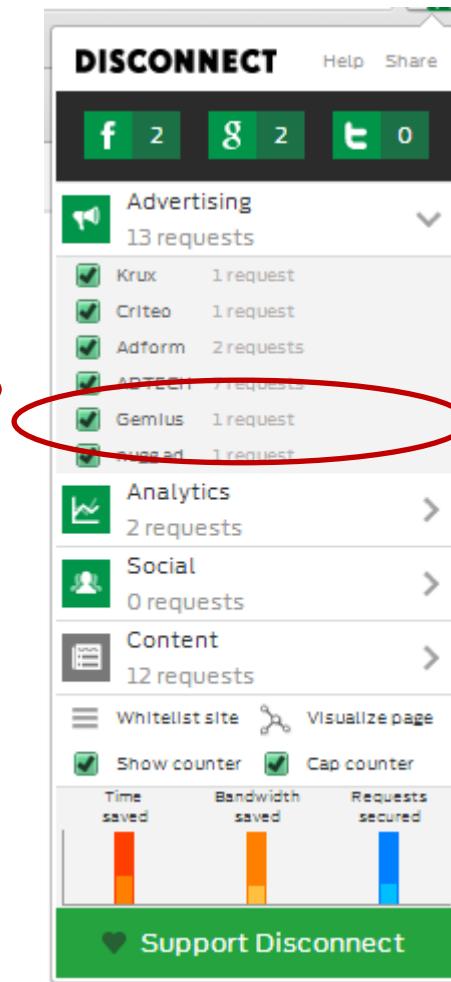
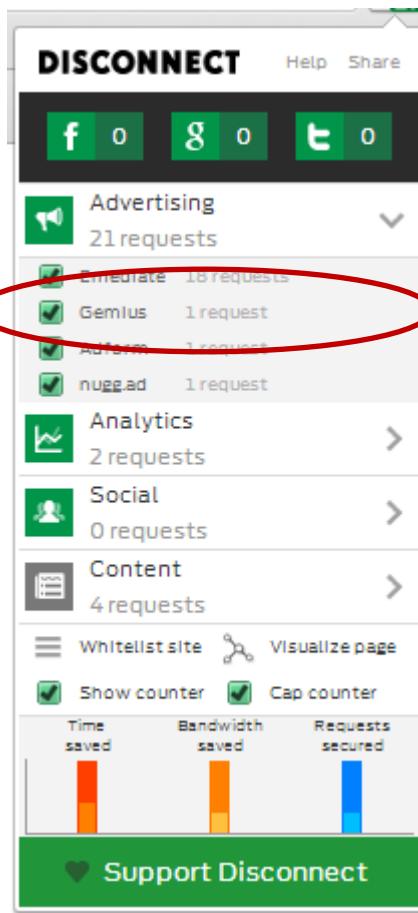
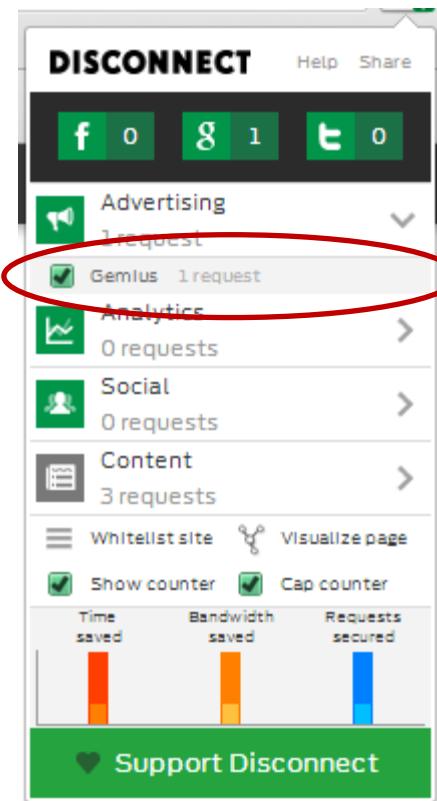


Dig  
dvs (id-1234567a)

**Reklame netværket**



### 3.Party - Geminus



dr.dk

b.dk

pol.dk

bt.dk



### 3.Party – Nugg.ad

**DISCONNECT**

Help Share

**f 0 g 1 t 0**

**Advertising** 1 request

**Gemius** 1 request

**Analytics** 0 requests

**Social** 0 requests

**Content** 3 requests

Whitelist site Visualize page

Show counter  Cap counter

Time saved Bandwidth saved Requests secured

**Support Disconnect**

**DISCONNECT**

Help Share

**f 0 g 0 t 0**

**Advertising** 21 requests

- Emediate** 18 requests
- Gemius** 1 request
- Adform** 1 request
- nugg.ad** 1 request

**Analytics** 2 requests

**Social** 0 requests

**Content** 4 requests

Whitelist site Visualize page

Show counter  Cap counter

Time saved Bandwidth saved Requests secured

**Support Disconnect**

**DISCONNECT**

Help Share

**f 2 g 2 t 0**

**Advertising** 13 requests

- Krux** 1 request
- Criteo** 1 request
- Adform** 2 requests
- ADTECH** 7 requests
- Gemius** 1 request
- nugg.ad** 1 request

**Analytics** 2 requests

**Social** 0 requests

**Content** 12 requests

Whitelist site Visualize page

Show counter  Cap counter

Time saved Bandwidth saved Requests secured

**Support Disconnect**

**DISCONNECT**

Help Share

**f 3 g 2 t 0**

**Advertising** 29 requests

- Emediate** 26 requests
- Adform** 1 request
- Gemius** 1 request
- nugg.ad** 1 request

**Analytics** 2 requests

**Social** 0 requests

**Content** 1 request

Whitelist site Visualize page

Show counter  Cap counter

Time saved Bandwidth saved Requests secured

**Support Disconnect**

dr.dk

b.dk

pol.dk

bt.dk



# Hvor mange trackere kan der være på én side?

The screenshot shows a cookie consent dialog box from the website bt.dk. The title is "Ansvarlig brug af dine data". The text explains that Berlingske Media A/S uses cookies to tailor content, functions, ads, and analyze traffic. It mentions that partners can also use cookies for targeted advertising. A red circle highlights the "Nødvendig" category, which contains 36 items. Other categories listed are "Præferencer" (8), "Statistik" (89), "Marketing" (320), and "Uklassificeret" (282). Below the categories is a table with columns: Navn, Uddyber, Formål, Udløb, and Type. One row is visible for "CookieConsent" from "abonnement.bt.d". At the bottom, it says the declaration was last updated on 08-09-2018 by Cookiebot.

**Ansvarlig brug af dine data**

Berlingske Media A/S anvender cookies på bt.dk, for at tilpasse indhold, funktioner og annoncer og analysere trafikken. Vores partnere kan også anvende cookies til brug for målrettet annoncering. Ved at klikke OK giver du samtykke til Berlingske Media og tredjeparters anvendelse af cookies på ovennævnte domæner. Du kan altid tilbagekalde dit samtykke.

OK Indstillinger ^

Cookiedeklaration Om cookies

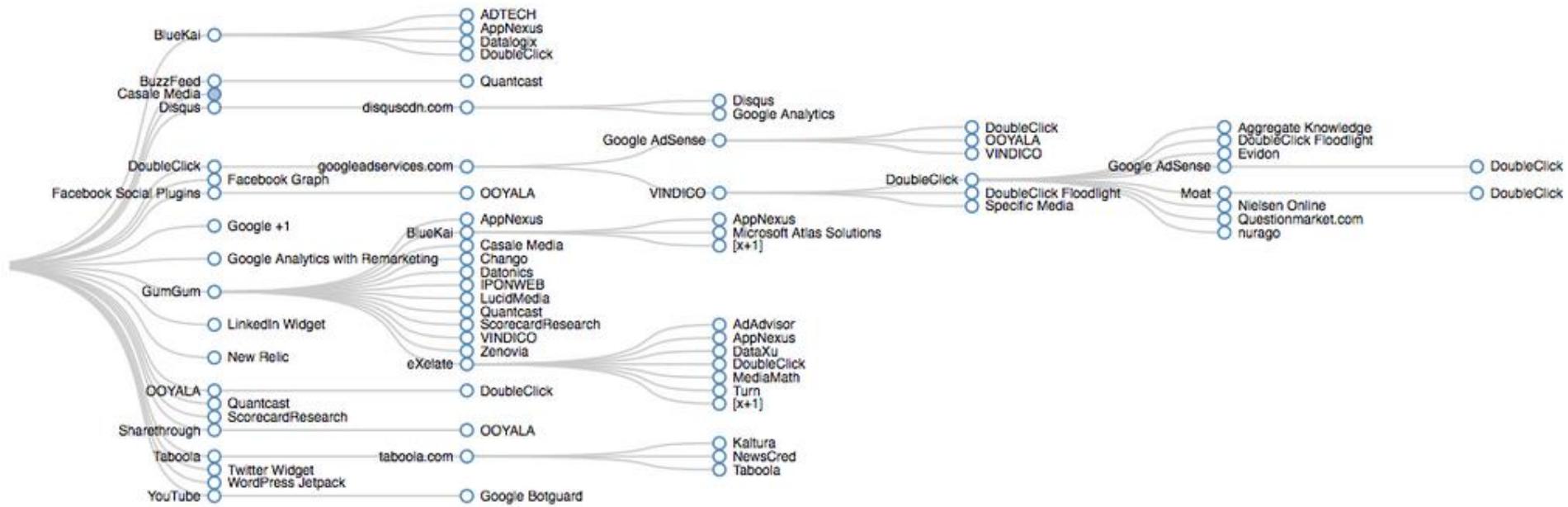
Nødvendig (36)  
Præferencer (8)  
Statistik (89)  
Marketing (320)  
Uklassificeret (282)

Navn	Uddyber	Formål	Udløb	Type
CookieConsent	abonnement.bt.d bt.dk	Gemmer brugerens cookie- samtykke- tilstand for det	1 år	HTTP

Cookiedeklarationen er sidst opdateret d. 08-09-2018 af [Cookiebot](#)



Hvor mange trackere kan der være på én side?



# Stor international medie virksomhed – **auto-refreshing ad units**



# Hvor mange trackere kan der være på én side?

## Purposes

Store and/or access information on a device

Consent  +

Select basic ads

Create a personalised ads p

Select personalised ads

Create a personalised conte

Select personalised content

Measure ad performance

Measure content performance

Apply market research to ge

Develop and improve produ

## Special Purposes

Vendor List

Save Settings &

InvictaMedia, Inc.	Legitimate Interest <input checked="" type="checkbox"/>	Consent <input type="checkbox"/>	+ 
Sharethrough, Inc	Consent <input type="checkbox"/>	+ 	
Smaato, Inc.	Legitimate Interest <input checked="" type="checkbox"/>	Consent <input type="checkbox"/>	+ 
Visarity Technologies GmbH	Legitimate Interest <input checked="" type="checkbox"/>	Consent <input checked="" type="checkbox"/>	+ 
Semasio GmbH	Consent <input type="checkbox"/>	+ 	
Crimtan Holdings Limited	Legitimate Interest <input checked="" type="checkbox"/>	Consent <input type="checkbox"/>	+ 
Scene Stealer Limited	Legitimate Interest <input checked="" type="checkbox"/>	Consent <input type="checkbox"/>	+ 
Betgenius Ltd	Consent <input type="checkbox"/>	+ 	
TreSensa Technologies, Inc.	Legitimate Interest <input checked="" type="checkbox"/>	Consent <input type="checkbox"/>	+ 
Tapad, Inc.	Consent <input type="checkbox"/>	+ 	
Teroa S.A.	Consent <input type="checkbox"/>	+ 	
Criteo SA	Consent <input type="checkbox"/>	+ 	
1plusX AG	Legitimate Interest <input checked="" type="checkbox"/>	Consent <input type="checkbox"/>	+ 
Adloop SA			

Manage Settings

Save Settings & Exit

Continue with Recommended Cookies

### 3.Party – clickstream

Kunst



600.000 millionærer drive mod ny rekord



BESØG MUSEET UDFORS KUNSTEI

Dit arbetsrum

Nye nyhedspladser



**DISCONNECT** Help Share

f 1 g 0 t 0

- Advertising 3 requests
- Analytics 0 requests
- Social 0 requests
- Content 4 requests**

Whitelist site Visualize page

Show counter Cap counter

**DISCONNECT** Help Share

f 1 g 1 t 0

- Advertising 1 request
- Analytics 0 requests
- Social 1 request
- Content 0 requests**

Whitelist site Visualize page

Show counter Cap counter

Time saved Bandwidth saved Requests secured

Support Disconnect

Eller fodbold



Copenhagen 2. april 2014



0/0



1



t

Eksperter: AaB eller FCM bliver mestre – dyrt for dansk fodbold



14 min siden Vanvids-fotograf: Dørfor lagde jeg mig på vejen



Cykling 10 min siden Vanvids-fotograf: Dørfor lagde jeg mig på vejen

Forsiden | Nyheder | Sport | Fodbold | flash! | TV | nationen | Forbrug | Se

Fodbold | Live | Stiller | Sports-TV | Dansk fodbold | International fodbold | Premier L



f 2 g 2 t 0

Advertising 24 requests

- Krux 1 request
- Criteo 1 request
- ADTECH 20 requests
- Gemius 1 request
- nugg.ad 1 request

Analytics 3 requests

AaB-aktionære underskud

AaB's konkurrence vil have kirkelund

### 3.Party – clickstream

3.Party – clickstream

The image displays two side-by-side screenshots of a web browser interface, likely from a tool like Disconnect, showing clickstream data for different topics.

**Kunst (Left):**

- Header: Kunst
- Content: A news article from BØRSEN about "PLEASURE" featuring a woman in a coat standing in front of a painting.
- Disconnect sidebar: Shows 1 request, 8 shares, and a list of categories: Advertising, Requests, Analytics, Social, Content, and Requests.
- Bottom: A "Support Disconnect" button.

**Eller fodbold (Right):**

- Header: Eller fodbold
- Content: A news article from BT about football experts predicting the outcome of a match between AaB and FCM.
- Disconnect sidebar: Shows 2 requests, 8 shares, and a list of categories: Advertising, Requests, Analytics, Social, Content, and Requests.
- Bottom: A "Support Disconnect" button.

Danner hurtigt (meget) unikke profiler  
Kombineres med lokation osv, osv



# Profiling – remarketing



Ryan Calo

@rcalo

Our robots are spying on you! Please buy something.

[Oversæt Tweet](#)



Drizly

To: Me >

10:11 AM

Where'd you go, fren



BEER WINE LIQUOR

We (aka the robots running our site) happened to notice that you were looking at some drinks.

Which drinks?

*These* drinks:



Rebel Yell Kentucky Straight Bourbon

[SHOP NOW →](#)

## About remarketing

Remarketing shows ads to people who've visited your website or used your mobile app. When people leave your website without buying anything, for example, remarketing helps you reconnect with them by showing relevant ads across their different devices.

This article introduces the benefits of remarketing and the types of AdWords remarketing campaigns.



## Benefits

Whether you're looking to drive sales activity, increase registrations, or promote awareness of your brand, remarketing can be a strategic component of your advertising.

- **Access to people when they're likely to buy:** You can reach people who've interacted with your business. You can advertise to them when they're searching,



# Twitter – brug af profil info

Select devices, platforms, and carriers

Select additional targeting criteria  
Users falling into any of the categories below will be targeted.

+ Add keywords

+ Add followers

**Browse interests**

- Health
- Hobbies and interests
- Home and garden
- Law, government, and politics
- Life stages**
- Movies and television
- Music and radio
- Personal finance
- Pets
- Science
- Society

1 interests selected

Done

**Browse interests**

- Movies and television
- Music and radio
- Personal finance
- Pets
- Science
- Society**
- Sports
- Style and fashion
- Technology and computing
- Travel

1 interests selected

Done



X

# Twitter - behaviours

Browse and select behaviors

No items selected

- › Auto (DLX Auto power)
- › CPG brands
- › CPG BuyStyles
- › CPG categories
- › Demographics
- › Finance
- › Lifestyles
- › Philanthropy
- › Retail brands
- › Retail categories
- › Seasonal
- › Subscription service:
- › Technology**
- › Travel

Browse and select behaviors

No items selected

- › Auto (DLX Auto powered by Polk)
- › CPG brands
- › CPG BuyStyles
- › CPG categories
- › Demographics
- › Finance
- › Lifestyles
- › Philanthropy
- › Retail brands**
- › Retail categories
- › Seasonal
- › Subscription services
- › Technology
- › Travel

 All of Seasonal

› Fall

 All of Winter Big bakers

provided by Datalogix

1.97M

X

 All of Retail brands

› Children's products

› Clothing, shoes &amp; accessories

**> Consumer electronics** All of Consumer electronics Apple

provided by Datalogix

3.55M

 Bose

provided by Datalogix

1.20M

 Canon

provided by Datalogix

1.49M

 LG

provided by Datalogix

2.68M

 Nikon

provided by Datalogix

1.38M

 Panasonic

provided by Datalogix

1.73M

 Philips

provided by Datalogix

1.40M

 Samsung

provided by Datalogix

2.52M

 Sony

provided by Datalogix

2.83M

 Toshiba

provided by Datalogix

1.88M

# Twitter - behaviours

Browse and select behaviors



No items selected

- › Auto (DLX Auto powered by Polk)
- › CPG brands
- › CPG BuyStyles
- › CPG categories
- › Demographics**
- › Finance
- › Lifestyles
- › Philanthropy
- › Retail brands
- › Retail categories
- › Seasonal
- › Subscription services
- › Technology
- › Travel

- All of Demographics**
  - › Charitable donor
  - › Dwelling type
  - › Education
  - › Family position
  - › Generation
  - › Home ownership
  - › Household size
  - › Income
  - › Length of residence
- › Life event**
  - › Marital status
  - › Net worth
  - › Occupation category
  - › Pet owner
  - › Political party affiliation

- All of Life event**
  - Child nearing high school graduation in household provided by Acxiom 326.92K
  - Entering adulthood provided by Acxiom 2.44M
  - Expectant parent provided by Acxiom 1.62K
  - New mover: past 6 months provided by Acxiom 122.18K
  - New parent 10, 11 or 12 months provided by Acxiom 58.96K
  - New parent 6 months or less provided by Acxiom 116.66K
  - New parent 7, 8 or 9 months provided by Acxiom 75.52K
  - Newlywed provided by Acxiom 28.26K
  - Senior adult in household 1.51M



# Hvordan ved Twitter hvem der køber Pepsi eller Coca Cola?

Browse and select behaviors

X

No items selected

- › Auto (DLX Auto powered by Polk)
- › CPG brands**
- › CPG BuyStyles
- › CPG categories
- › Demographics
- › Finance
- › Lifestyles
- › Philanthropy
- › Retail brands
- › Retail categories
- › Seasonal
- › Subscription services
- › Technology
- › Travel

- All of CPG brands**
- › Bakery buyers
- › Baking & cooking supplies buyers
- › Beverage buyers**
- › Cereal buyers
- › Children's food & product buyers
- › Condiments & sauces buyers
- › Dairy & egg buyers
- › Frozen food buyers
- › Health & beauty buyers
- › Household supplies buyers
- › Meat & seafood buyers
- › Pet care buyers
- › Soup buyers
- › Sweets & snack buyers

- All of Beverage buyers**
- Coffee: Folgers 2.12M  
provided by Datalogix
- Coffee: Maxwell House 1.15M  
provided by Datalogix
- Coffee: Starbucks 2.05M  
provided by Datalogix
- Diet carbonated: Diet Coca-Cola 3.46M  
provided by Datalogix
- Diet carbonated: Diet Pepsi 2.49M  
provided by Datalogix
- Juice: Capri Sun 2.85M  
provided by Datalogix
- Juice: Minute Maid 3.78M  
provided by Datalogix
- Juice: Ocean Spray 3.16M  
provided by Datalogix
- Juice: Simply Orange 3.38M  
provided by Datalogix
- Juice: Tropicana 3.09M  
provided by Datalogix
- Regular carbonated: 2.66M



# Twitter - behaviors

No items selected

- > Auto (DLX Auto powered by Polk)
- > CPG brands
- > CPG BuyStyles
- > CPG categories
- > Demographics
- > Finance
- > Lifestyles**
- > Philanthropy
- > Retail brands
- > Retail categories
- > Seasonal
- > Subscription services
- > Technology
- > Travel

<input type="checkbox"/> All of Lifestyles	
<input type="checkbox"/> Affluent baby boomers provided by Datalogix	4.30M
<input type="checkbox"/> Arts provided by Acxiom	1.54M
<input type="checkbox"/> Auto enthusiasts provided by Datalogix	1.87M
<input type="checkbox"/> Big city moms provided by Datalogix	2.99M
<input type="checkbox"/> Business travelers provided by Datalogix	3.46M
<input type="checkbox"/> Corporate execs provided by Datalogix	3.28M
<input type="checkbox"/> Corporate moms provided by Datalogix	1.55M
<input type="checkbox"/> Coupon users provided by Datalogix	1.67M
<input type="checkbox"/> Crafts provided by Acxiom	3.57M

## Data brokers – EkstraBladet.dk

# Annoncører og samarbejdspartnere

Vær opmærksom på, at enkelte firmaer ikke tillader os at indhente samtykke på dine vegne. Læs mere om firmaerne og deres privatlivspolitik ved at trykke på pilen ud for det enkelte firma. Herfra kan du vælge, om de må behandle dine data.

**Firma****Godkend alle**

Annoncevalg, levering og rapportering

**Funktioner:**

Måling

**Formål - Legitime interesser:**

Offline-datamatching

Sammenkædning af enheder



## Data brokers

Florida data broker has medical ailment information for 10 million named patients. Ailments include diabetes, irritation, incontinence, back pain and erectile dysfunction.

T5HealthyLiving.com collects 100% self-reported, HIPAA-compliant ailment and healthcare information.



Ailment Information		T5HealthyLiving.com	
Acne	COPD	Hearing Loss	Obesity
ADD/ADHD	Crohn's Disease	High Blood Pressure	Osteoarthritis
Allergies	Dental Health	HRT-Hormone Replacement	Osteoporosis
Alzheimer's	Depression	Hypertension	Parkinson's Disease
Anxiety Disorders	Diabetes	IBS	Prostate Cancer
Arthritis	Emphysema	Incontinence/OAB	Rheumatoid Arthritis
Asthma	Epilepsy	Insomnia	Schizophrenia
Back Pain	Erectile Dysfunction	Menopause	Sexual Conditions
Breast Cancer	Eye Ailments	Mental Health	Skin Conditions
Bronchitis	Fibromyalgia	Migraines/Headaches	Sleep Disorders
Cancer	Foot & Leg Problems	Mobility Challenged	Spinal Injury
Cholesterol	GERD/Acid Reflux	Multiple Sclerosis	Stress
Colorectal Cancer	Heart Disease	Nail Fungus	Ulcerative Colitis



## Data Enhancement:

Don't let the flatness of your database prevent you from knowing your consumers. Enrich your database with Age, Income, Gender, Education, Household information, Presence of Children, Ethnicity, Presence of Credit Cards, Marital Status, Phone, Email, Cell Phone Number and Homeowner Status (Own/Rent, Single Family or Multi-Family residences).

Take 5's data is further enhanced with **more than 275 unique demographic and lifestyle overlays**.

Our proprietary database allows us to build exciting historical and future consumer spending-behavior overlays into your database helping you gain additional intelligence about your consumers.



***Table I: Company Product Names***

## Sample List of Targeting Products Identifying Financially Vulnerable Populations

“Burdened by Debt: Singles”	“Struggling Elders: Singles”	“Meager Metro Means”	“Very Elderly” “Rolling the Dice”
“Mid-Life Strugglers: Families”	“Retiring on Empty: Singles”	“Relying on Aid: Retired Singles”	“Fragile Families”
“Resilient Renters”	“Tough Start: Young Single Parents”	“Rough Retirement: Small Town and Rural Seniors”	“Small Town Shallow Pockets”
“Very Spartan”	“Living on Loans: Young Urban Single Parents”	“Financial Challenges”	“Ethnic Second-City Strugglers”
“X-tra Needy”	“Credit Crunched: City Families”	“Credit Reliant” “Rocky Road”	“Rural and Barely Making It”
“Zero Mobility”			
“Hard Times”			
“Enduring Hardships”			
“Humble Beginnings”			

Får man lavere priser hvis man er i “X-tra Needy” segmentet?



## Indsamler de virkelig alt?

### OfficeMax Sends Letter to "Daughter Killed in Car Crash"

By Nesita Kwan | Sunday, Jan 19, 2014 | Updated 8:41 PM CDT

[View Comments \(39\)](#) | [Email](#) | [Print](#)

[Tweet](#) 188

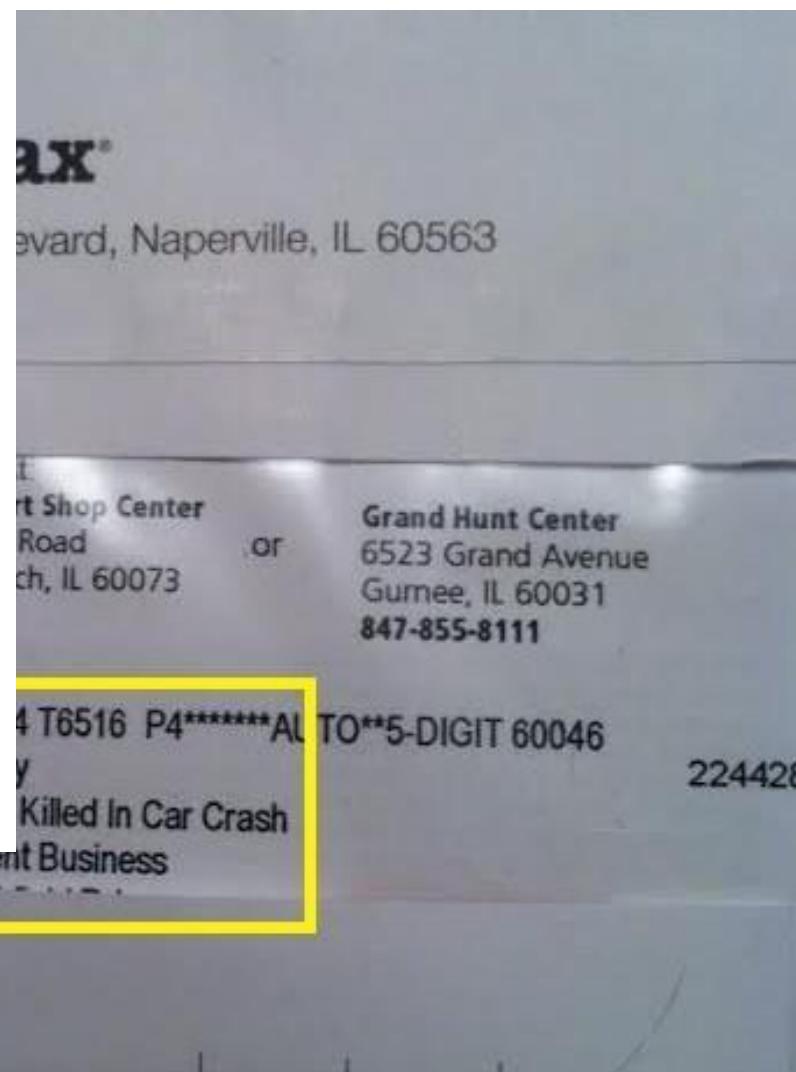
[Recommend](#)

[Share](#) 1k

[g+1](#) 60

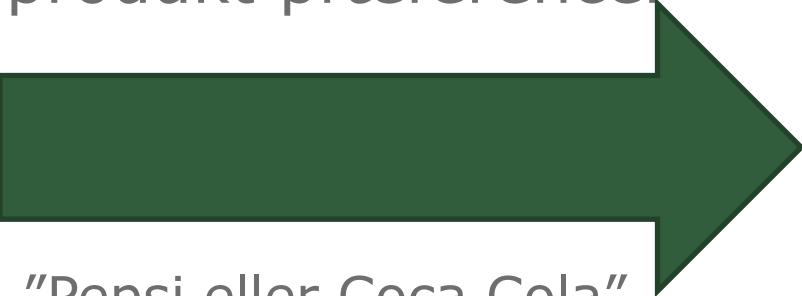


An Antioch couple who lost their teenage daughter in a car crash last year feels as if they were victimized again after receiving a letter from OfficeMax Thursday.

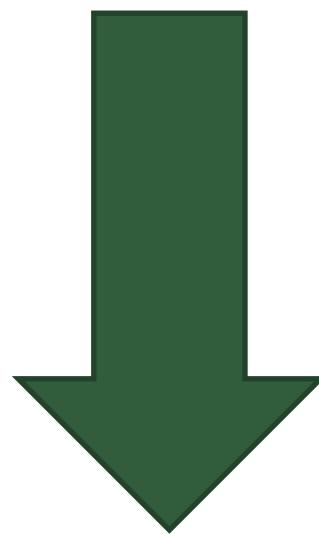


## Horisontal og vertikal profilering

Horisontal profilering:  
produkt præferencer



"Pepsi eller Coca Cola"



Vertikal profilering:  
købekraft osv  
("X-tra needy")



## Loktionsdata

Giver et ekstremt præcist billede af hvem man er og hvad man laver

Hvor er man henne om natten og om dagen (arbejdsplads/studie) og bevægelsesmønstre - sover man forskellige steder, går man på bar eller i kirke eller moské, til psykolog, på en bestemt klinik hver onsdag...

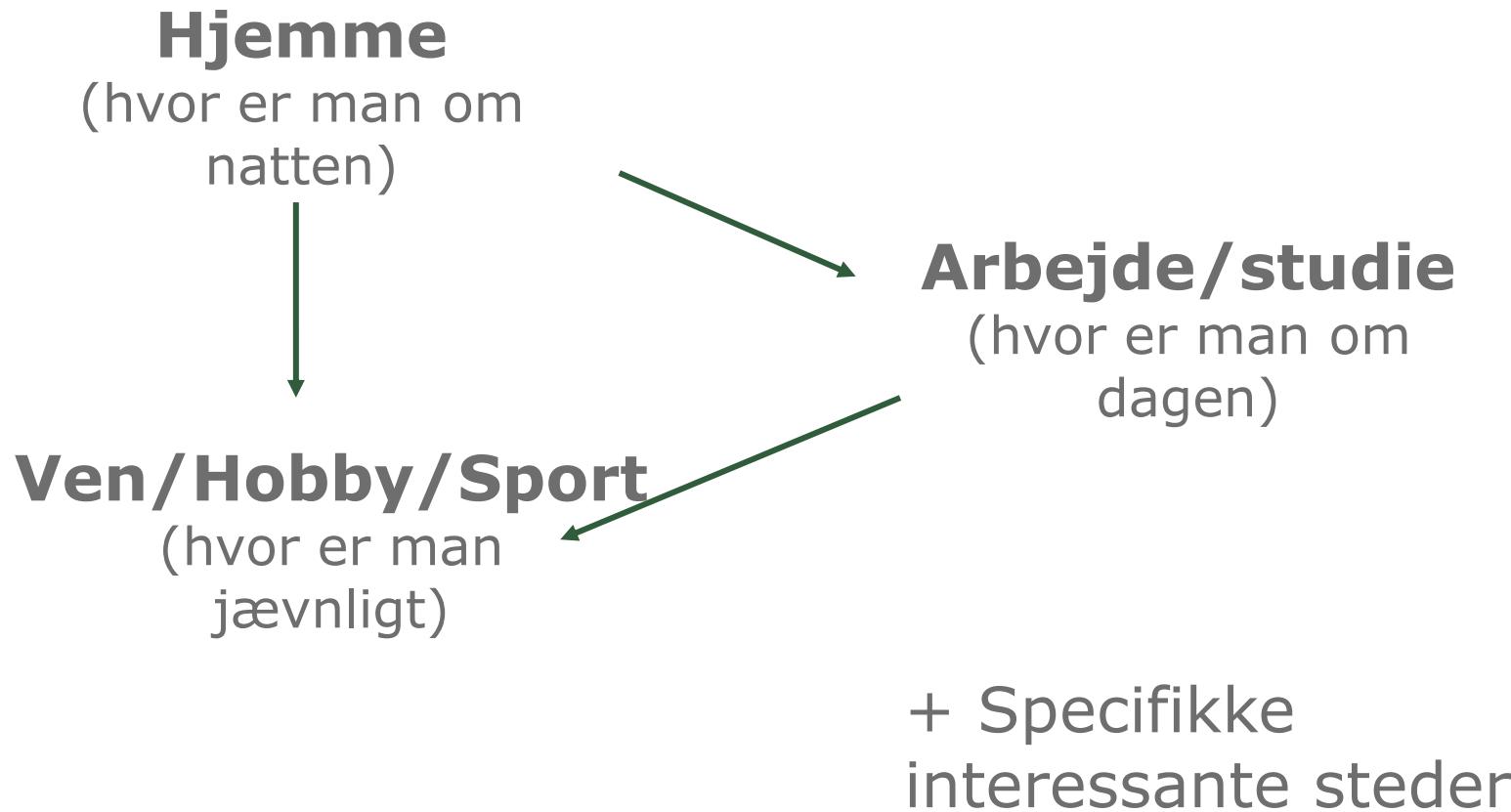
Hvem er man sammen med – på samme netværk

Kunde-profilering

Hvis man pludselig ændre mønster



## Loktionsdata – GPS og netværk (WI-FI)



# Google: Millions of buckets

Case5:13-md-02430-LHK Document183-6 Filed08/13/14 Page3 of 4

From: Deepak Jindal Sent: 8/27/2009 1:51 PM  
To: [-] Claire Cui  
Cc: [-] Shiva Shivakumar  
Bcc: [-]  
Subject: Re: Nemo follow up

Hi Claire,

Thanks for your thoughts. You are absolutely right about email being more focused and the 3 types of emails.

Wondering what your thoughts are on how content and gmail can share granular criteria. For example, I just received a wedding invitation. Instead of showing wedding related ads, if we exposed this info to advertisers, they could show wedding gift, travel ads to me and wedding registry, honeymoon planning etc. to my friend. As far as I understand content is planning broader profile like IBA (~700 buckets), but gmail is planning millions of buckets. Since privacy issues are different for third party data like content vs google owned data like gmail, it would be hard for both to use a single user model with the same granularity.

**Gmail, Youtube, søgninger, device tracking osv:**  
Gmail sorts users not into a few thousand demographic and interest categories, but into literally millions of distinct “buckets”.



# Google: Millions of buckets

Case5:13-md-02430-LHK Document183-6 Filed08/13/14 Page3 of 4

From:	Deepak Jindal	Sent: 8/27/2009 1:51 PM
To: [-]	Claire Cui	
Cc: [-]	Shiva Shivakumar	
Bcc: [-]		
Subject:	Re: Nemo follow up	
<p>Hi Claire,</p> <p>Thanks for your thoughts. You are absolutely right about email being more focused and the 3 types of emails.</p> <p>Wondering what your thoughts are on how content and gmail can share granular criteria. For example, I just received a wedding invitation. Instead of showing wedding related ads, if we exposed this info to advertisers, they could show wedding gift, travel ads to me and wedding registry, honeymoon planning etc. to my friend. As far as I understand content is planning broader profile like IBA (~700 buckets), but gmail is planning millions of buckets. Since privacy issues are different for third party data like content vs google owned data like gmail, it would be hard for both to use a single user model with the same granularity.</p>		

It also makes statistically plausible guesses about things you didn't voluntarily disclose. It estimates how much you earn by looking up IRS income data for your zip code.

It knows if you have children at home—a trick it performs by surveying hundreds of thousands of parents, observing their online behavior, then extrapolating to millions of other users.



## Data er fremtiden

# Facebook Knows That Your Relationship Will End In A Week

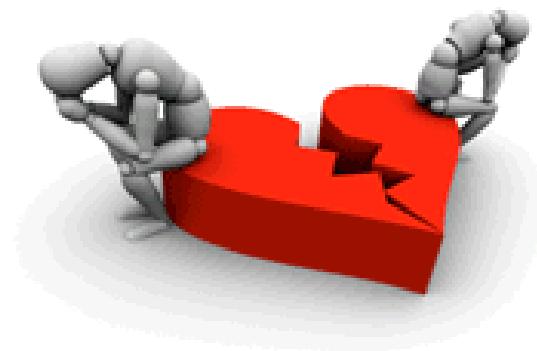
Posted by [Nick O'Neill](#) on May 17th, 2010 11:04 AM

 Share

683

 19 Comments

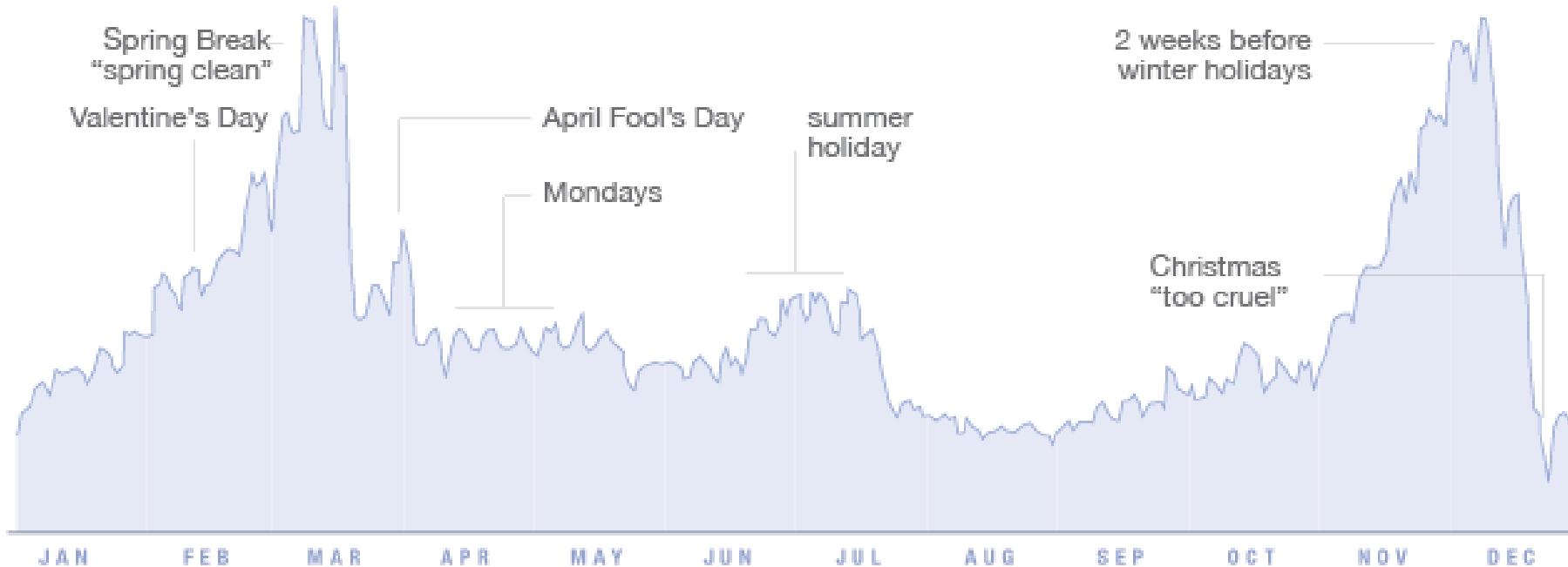
It's an inside half-truth that many friends of Mark Zuckerberg have told me over the years: Facebook knows when a relationship is about to end. My response was to always ask more questions as it actually sounded like a legitimate possibility. In David Kirkpatrick's soon to be released book, "[The Facebook Effect](#)", Kirkpatrick confirms that relationship patterns were something that Mark Zuckerberg often toyed with.



Data, data, data

## Peak Break-Up Times

According to Facebook status updates

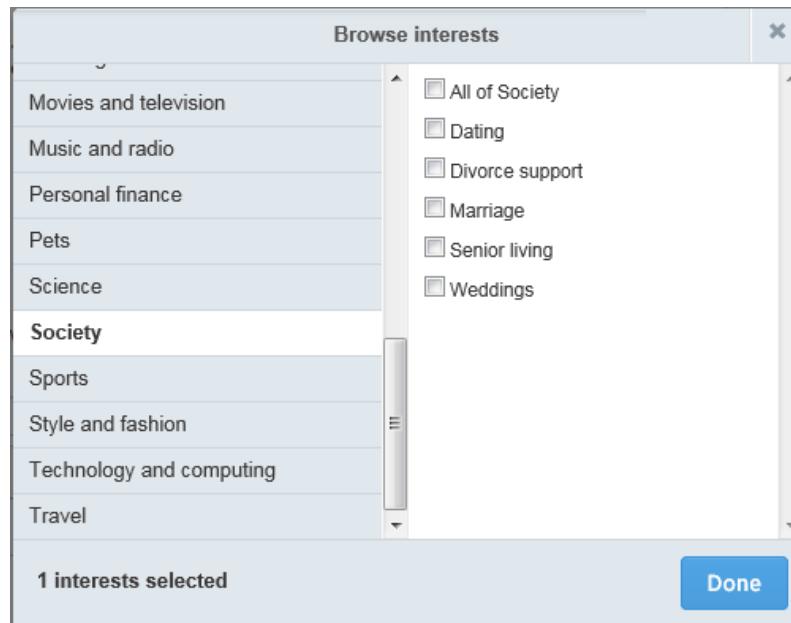


David McCandless & Lee Byron  
InformationIsBeautiful.net / LeeBryon.com

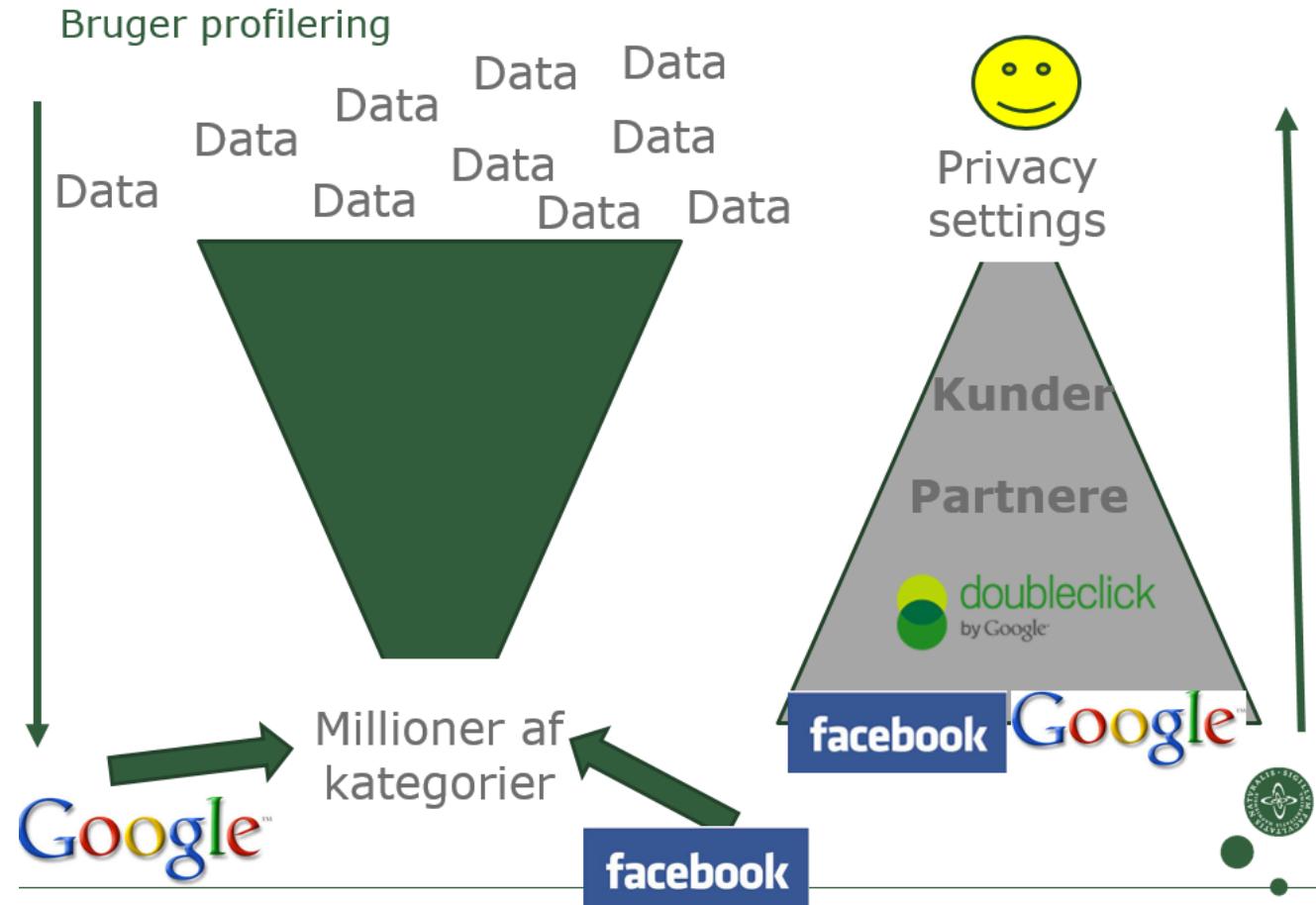
source: searches for "we broke up because"  
taken from the infographic ultrabook  
The Visual Miscellaneum

## Facebook

Klik i højre hjørne på en "sponseret post" - viser hvorfor reklamen bliver vist for dig



## Millions of buckets



Netflix og "Long-tail problemet"



# Behavioural-profiling and psychographic profiling

job sign in search ▾

sport arts lifestyle sections ▾

media society law scotland wales northern ireland

International edition ▾

# the guardian

## Did Cambridge Analytica influence the Brexit vote and the US election?

Nigel Oakes's company is at the centre of a growing controversy over the use of personal data during elections. But is there any evidence that what it does works?

“Classifying people into personality types to connect with people in ways that move them to action”

“We collect up to 5,000 data points on over 220 million Americans, and use more than 100 data variables to model target audience groups and predict the behaviour of like-minded people.”



# Når Netto ved din datter er gravid før du ved det

**Forbes** ·

**Real Time**

+10 posts this hour

**Most Popular**

Highest-Paid Athletes

**Lists**

The World's Billionaires



**Kashmir Hill**, Forbes Staff

Welcome to The Not-So Private Parts where technology & privacy collide



TECH | 2/16/2012 @ 11:02AM | 1,556,036 views

## How Target Figured Out A Teen Girl Was Pregnant Before Her Father Did

Every time you go shopping, you share intimate details about your consumption patterns with retailers. And many of those retailers are studying those details to figure out what you like, what you need, and which coupons are most likely to make you happy. [Target](#), for example, has figured out how to data-mine its way into your womb, to figure out whether you have a baby on the way long before you need to start buying diapers.

Charles Duhigg outlines in the [New York Times](#) how Target tries to hook parents-to-be at that crucial moment before they turn into rampant — and loyal — buyers of all things pastel, plastic, and miniature. He talked to Target statistician Andrew Pole —



Target has got you in its aim



Ikke noget nyt – men langt fra det samme som før!

The screenshot shows the TV 2 Media website. At the top, there's a navigation bar with the TV 2 logo, 'Media' (highlighted in red), 'Produkter', 'Services', 'Nyheder', 'Cases', and 'Kont'. Below the navigation is a large image of a man in a suit. To the left of the image, the headline 'Direktører ser TV 2 NEWS' is displayed in large white text. Below the headline is a text snippet: 'Hver dag tænder 11.100 danske direktører for vores nyhedskanal, og i løbet af en uge når vi hele 71% af cheferne. De kan oven i købet lide det, de ser.' A button labeled 'Se analyse' is visible on the left. The background of the main content area is a blurred image of an office environment.

En analyse, der er foretaget af OmnicomMediaGroup, viser nemlig, at TV 2 NEWS har godt fat i de danske direktører: Mere end en tredjedel tuner dagligt ind, og i løbet af en uge, når TV 2 NEWS tæt på 3/4. De direktører, der ser TV 2 NEWS, ligner gennemsnittet af danske ledere – både i forhold til kønsfordeling, indtjening og alder: Flest mænd med høje indtægter i alderen 30 til 65 år.



## Se evt – John Olivers "Data Brokers"

YouTube DK

The screenshot shows John Oliver in his signature dark suit and glasses, looking shocked with his hands clasped near his chin. To his left is a large inset image showing a stylized profile of a human head composed of digital blocks and icons, with the words 'DATA BROKERS' overlaid. Below the video player are standard YouTube controls: play/pause, volume, timestamp (10:05 / 25:09), and a set of sharing and settings icons.

Data Brokers: Last Week Tonight with John Oliver (HBO)

7,420,054 views • Apr 11, 2022

186K DISLIKE SHARE SAVE ...

<https://www.youtube.com/watch?v=wqn3gR1WTcA>



# Pause



Mike Rundle

@flyosity

When you post a funny joke to the Messenger group chat

Oversæt fra engelsk



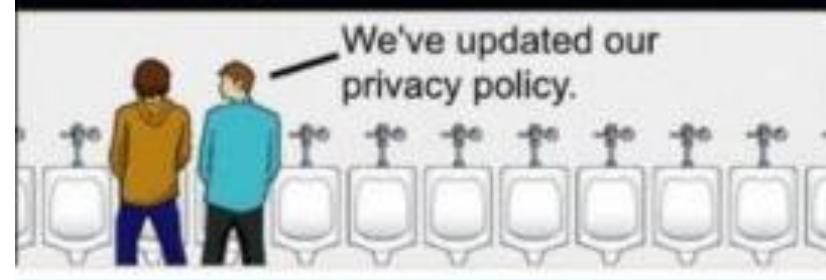
2:06 · 06 apr. 18

4.008 Retweets 9.327 Likes



Jeff McComsey

May 26 at 1:57pm · 48

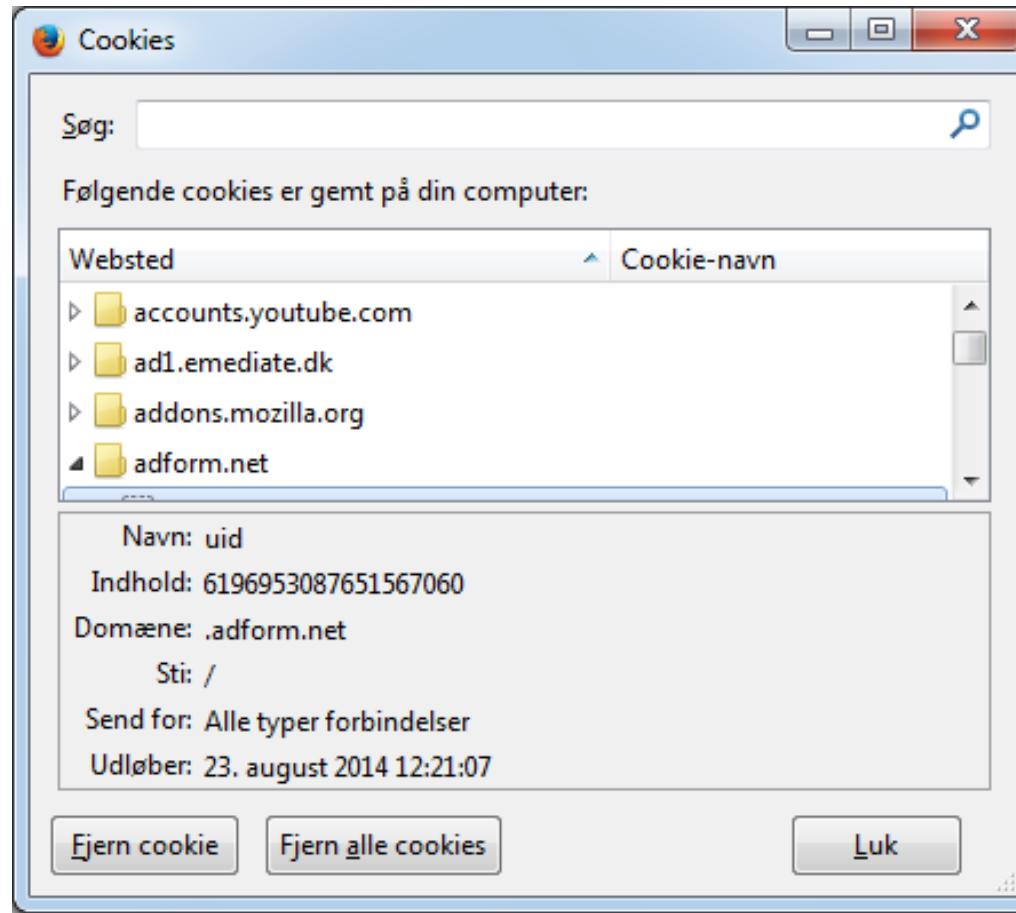


# Profilering

Hvordan bliver man unikt identificeret?



# Profiling – Cookies



# Profiling – IP-adresser og telefon nummer

The screenshot shows a mobile browser interface with the following details:

- Top bar: 19:17, 3G signal strength.
- Address bar: support.google.com
- Page title: AdWords Help
- Section: About remarketing
- Text: "Remarketing shows ads to people who've visited your website or used your mobile app. When people leave your website without buying anything, for example, remarketing helps you reconnect with them by showing relevant ads across their different devices."
- Text: "This article introduces the benefits of remarketing and the types of AdWords remarketing campaigns."
- Image: A flow diagram showing a laptop with "Flight from NYC to SFO" leading to a smartphone with "SFO", which then leads to a person holding a suitcase with "SFO".
- Section: Benefits
- Text: "Whether you're looking to drive sales activity, increase registrations, or promote awareness of your brand, remarketing can be a strategic component of your advertising."
- List: "**Access to people when they're likely to buy:** You can reach people who've interacted with your business. You can advertise to them when they're searching."
- Bottom navigation icons: back, forward, search, etc.

## Make sure your settings are up-to-date

Since you have opted for higher security with 2-Step Verification, we need to periodically make sure your settings are correct.

The screenshot shows a Google account settings page for 2-Step Verification:

- Icon: Smartphone with a speech bubble.
- Text: "You usually get verification codes from: [REDACTED]"
- Text: "Added on Jul 29, 2011"
- Text: "BACKUP PHONES" with a question mark icon.



# Profilering – DeviceID (apps)

	iPhone	Android				
App name	Username, Password	Contacts	Age, Gender	Location	Phone ID	Phone number
0.03 Seconds Pro						
Age My Face						
Angry Birds						
Angry Birds Lite						
Aurora Feint II: Lite						
Barcode Scanner (BahnTech)						
Bejeweled 2						
Best Alarm Clock Free						
Bible App (LifeChurch.tv)						
Bump						
CBS News						
0.03 Seconds						
Dictionary.com						
Doodle Jump						
ESPN ScoreCenter						
Facebook						
Flashlight / John						

Legend:

- Does not transmit data (Grey)
- Transmits data to app owner (Blue)
- Transmits data to third parties (Red)

IMEI  
IMSI  
MSISDN

TMSI



# Technologies used in advertising

## Other technologies used in advertising

Google's advertising systems may use other technologies, including Flash and HTML5, for functions like display of interactive ad formats. We may use the [IP address](#), for example, to identify your general location. We may also select advertising based on information about your computer or device, such as your device model, browser type or sensors in your device like the accelerometer.



# Profiling

Technical analysis of client identification mechanisms

1 Explicitly assigned client-side identifiers

1.1 HTTP cookies

1.2 Flash LSOs

1.3 Silverlight Isolated Storage

1.4 HTML5 client-side storage mechanisms

1.5 Cached objects

1.6 Cache metadata: ETag and Last-Modified

1.7 HTML5 AppCache

1.8 Flash resource cache

1.9 SDCH dictionaries

1.10 Other script-accessible storage mechanisms

1.11 Lower-level protocol identifiers

2 Machine-specific characteristics

2.1 Browser-level fingerprints

2.2 Network configuration fingerprints

3 User-dependent behaviors and preferences

4 Fingerprinting prevention and detection challenges

5 Potential directions for future work

[www.chromium.org/Home/chromium-security/client-identification-mechanisms](http://www.chromium.org/Home/chromium-security/client-identification-mechanisms)



# Profilering – hvorfor ser URL'en sådan ud?

Google search results for "chromium security".

Search filters: Alle lande, Land: Danmark, Alle sprog, Sider på dansk, Ethvert tidsinterval, Den seneste time, Da seneste 24.

Results:

- Chromium Security - The Chromium Projects**  
<https://www.chromium.org/Home/chromium-security>  
The Chromium security team aims to provide Chrome and Chrome OS users with the most secure platform to navigate the web, and just generally make the ...
- Security Hall of Fame - The Chromium Projects**  
<https://www.chromium.org/Home/chromium-security/hall-of-fame>  
The following bugs qualified for a Chromium Security Reward, or represent a win at our Pwnium competition. On behalf of our millions of users, we thank the ...

<https://www.google.dk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CCoQFjAA&url=https%3A%2F%2Fwww.chromium.org%2FHome%2Fchromium-security%2Fclient-identification-mechanisms&ei=AGRLVf-XFcSXsAGj1oB4&usg=AFQjCNHrK5BSWYD9upI59qeMrmdZIFDW9w&bvm=bv.92765956,d.bGg>



## Profilering

Mouse gesture, keystroke timing and velocity patterns, and accelerometer readings that are unique to a particular user or to particular surroundings.

There is a considerable body of scientific research suggesting that even relatively trivial interactions are deeply user-specific and highly identifying.



### 3.Party – clickstream, lokation og meget mere

Kunst, fodbold - eller teknologi, eller...

- Location information
- Aktivitet (mange indlæg og mange modtagere eller få posts til få personer osv)
- Afledt information på mange, mange måder:  
F.eks. udlede race fra Likes:  
"Bål, Red Sox og Tom Clancy romancer" (hvid)  
eller  
"Biblen, PlayStation og Law & Order" (sort)



## Profiling – at “gemme sig” medfører identificering

Most people do not change default settings

Client features that can be customized or disabled by the user, with special emphasis on mechanisms such as DNT, third-party cookie blocking, changes to DNS prefetching, pop-up blocking, Flash security and content storage etc.

Users who extensively tweak their settings from the defaults may be making their browsers considerably easier to uniquely fingerprint.



# Profiling - browser

<http://panopticclick.eff.org>

The screenshot shows a web browser window with a zebra-striped background. The address bar displays the URL [https://panopticclick.eff.org/results?aat=1&dnt=111&fpi\\_whorls={"v2": "plugins", "Plugin+0": "Shockwave Flash"}](https://panopticclick.eff.org/results?aat=1&dnt=111&fpi_whorls={). The main content area contains the following text:

Does your browser protect from **fingerprinting?** X  
your browser has a unique fingerprint

Note: because tracking techniques are complex, subtle, and constantly evolving, Panopticclick does not measure all forms of tracking and protection.

Your browser fingerprint **appears to be unique** among the 230,210 tested in the past 45 days.

Currently, we estimate that your browser has a fingerprint that conveys **at least 17.81 bits of identifying information**.

The measurements we used to obtain this result are listed below. You can [read more about our methodology, statistical results, and some defenses against fingerprinting here](#).

Browser Characteristic	bits of identifying information	one in $x$ browsers have this value	value
User Agent	4.27	19.28	Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:81.0) Gecko/20100101 Firefox/81.0
HTTP_ACCEPT Headers	1.94	3.84	text/html, */*; q=0.01 gzip, deflate, br en-US,en;q=0.5



## Profiling



### How Unique are You?

Enter your ZIP code, date of birth, and gender to see how unique you are (and therefore how easy it is to identify you from these values).

Date of Birth

Gender  Male  Female

5-digit ZIP

<https://4037109.fl.doubleclick.net/activityi;src=4037109;type=20142003;cat=201420;ord=7917385912018;~oref=https://www.healthcare.gov/see-plans/85601/results/?county=04019&age=40&smoker=1&parent=&pregnant=1&mec=&zip=85601&state=AZ&income=35000&step=4?>

Køn, zip, alder i USA: 84-97%



## Profilering

Kan man slette sig selv, kan man skjule sig efter  
man er profileret?

På én gang skal man skifte IP-adresse, device-  
IDs, e-mail, telefon-nummer, adresse, arbejde  
osv, osv

Men i praksis betyder "Netflix long-tail problemet"  
at dine interesser identifierer dig med det samme



## Profiling

Hvem og hvad beskytter man så egentlig ved at slette cookies?

The image displays two windows related to managing browser data. On the left is a 'Delete Browsing History' dialog from a web browser. It includes sections for 'Preserve Favorites website data', 'Temporary Internet files', 'Cookies', and 'History'. The 'Cookies' section is checked. On the right is a separate 'Cookies' management window titled 'Cookies'. It shows a list of cookies stored on the computer, with one cookie from 'adform.net' selected for viewing. The cookie details shown are: Navn: uid, Indhold: 6196953087651567060, Domæne: .adform.net, Sti: /, Send for: Alle typer forbindelser, and Udløber: 23. august 2014 12:21:07.

Clear browsing data

Obliterate the following items from: the beginning of time

Clear browsing history

Clear download history

Delete cookies and other site and plug-in data

Empty the cache

Clear saved passwords

Clear saved Autofill form data

Clear data from hosted apps

[Learn more](#)

**Cookies**

Søg:

Følgende cookies er gemt på din computer:

Websted	Cookie-navn
accounts.youtube.com	
ad1.emediate.dk	
addons.mozilla.org	
adform.net	

Navn: uid  
Indhold: 6196953087651567060  
Domæne: .adform.net  
Sti: /  
Send for: Alle typer forbindelser  
Udløber: 23. august 2014 12:21:07

Ejern cookie Fjern alle cookies Luk

## Hvordan tjener man så penge på reklamer

1. 3rd parties og store platforme (Google, Facebook osv) udfører profilering
2. Reklamebureauer laver reklamerne
3. Auktion



# Reklamer: Priser og typer

## Contextual

Reklame baseret på direkte emner, f.eks. reklamer for "Rejser til Spanien" i artikel om Spanien. Google "sko" => Google reklamer om sko

## Demografisk

Baseret på brugerens alder, køn, vægt, køn, postnummer osv  
Læs en artikel om sko og få vist herresko eller damesko baseret på køn

## Psychographic

Baseret på brugerens interesser, få reklamer om sko i artikel om rejser

## Behavioral

Baseret på brugerens vaner, kan være afledt af bred viden om brugeren

## Premium

Dyreste reklamer, bruges i reklame kampagner, typisk af store, kendte produkter og firmaer

## Remnant adds

Billigste, ingen data om brugeren eller hjemmesiden, ingen reklamer matcher kriterier for bruger eller for siden



# Reklamer: Priser og typer

**Contextual –  
"Sko"**

**Demografisk**

**Psychographic**

**Behavioral**

# KULTUR

Film & tv | Musik | Medier | Bøger | Kunst | Arkitektur | Scene | Mode | FOMO | Roskilde Festival

MODE 14. DEC. 2014 KL. 18.02

## Dansk designer vil lave ortopædisk korrekte højhælede sko

I 2015 sender designeren Frederikke Schmidt de første modeller på markedet.



DINE POLITIKEN	
hoarlycksksko.dk fe3366 pietra herre sko fra 248 x 248 - 10 k - jpg	stilhedsrevolutionen.dk i for små sko (fra e-bogen 3764 x 2500 - 2162 k - jpg
dynepusheren.dk Supra Hvid Skate Sko Justin 640 x 480 - 74 k - jpg	politiken.dk Maend har halvt så mange sko 2126 x 1800 - 736 k - jpg
trendyshop.dk co. i ny måling	varbak.com converse sko resmi 500 x 316 - 69 k - jpg
skal ikke bulderkoge	



# Reklamer: Priser og typer

Contextual

**Demografisk –  
"damesko"**

Psychographic

Behavioral

# KULTUR

Film & tv | Musik | Medier | Bøger | Kunst | Arkitektur | Scene | Mode | FOMO | Roskilde Festival

MODE 14. DEC. 2014 KL. 18.02

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I 2015 sender designeren Frederikke Schmidt de første modeller på  
markedet.

POLITIKEN ≡ SEKTIONER | Q. SØG | ♥ DIT POLITIKEN | MERE

hoarlycksksko.dk  
fe3366 pietra herre sko  
248 x 248 - 10 k - jpg

stilhedsrevolutionen.dk  
i for små sko (fra e-bogen  
3764 x 2500 - 2162 k - jpg)

dynamusheren.dk  
Supra Hvid Skate Sko Justin  
640 x 480 - 74 k - jpg

politiken.dk  
Maend har halvt så mange sko  
2126 x 1800 - 736 k - jpg

KØB ABONNER

# KULTUR

Film & tv | Musik | Medier | Bøger | Kunst | Arkitektur | Scene | Mode | FOMO | Roskilde Festival

MODE 14. DEC. 2014 KL. 18.02

## Dansk designer vil lave ortopædisk korrekte højhælede sko

I 2015 sender designeren Frederikke Schmidt de første modeller på  
markedet.

seniorshop.dk  
Arcopedico Damesko  
2048 x 1362 - 205 k - jpg

enamelsign.com  
Far en sko kan laves.  
680 x 510 - 131 k - jpg

gadesko.dk  
Ecco notice damesko. blå/ brun  
255 x 340 - 8 k - asp

smartesko.dk  
Ecco Abelone sort dame  
460 x 304 - 66 k - jpg

20.11.14 training  
sko ikke  
bulderkoge

# Reklamer: Priser og typer

**Contextual**

**Demografisk**

**Psychographic –  
"Fodbold"**

**Behavioral**

# KULTUR

Film & tv | Musik | Medier | Bøger | Kunst | Arkitektur | Scene | Mode | FOMO | Roskilde Festival

MODE 14. DEC. 2014 KL. 18.02

## Dansk designer vil lave ortopædisk korrekte højhælede sko

I 2015 sender designeren Frederikke Schmidt de første modeller på markedet.



rawsport.dk  
Flyknit ger støvlen sidder på  
300 x 251 - 49 k - png

crazysport.dk  
Nike\_Mercurial\_Victory\_V\_Me  
800 x 600 - 39 k - jpg

sportigan.dk  
fodboldsko,  
1100 x 600 - 72 k - jpg

unisport.dk  
De har allerede lavet forsøget  
1100 x 600 - 44 k - jpg

mmsport.dk  
Den seneste udvikling er gået  
700 x 297 - 55 k - jpg

krise: Alternativet overhaler Pape og co. i ny måling

afliver pasta-myterne: Vandet skal ikke bulderkoge



# Reklamer: Priser og typer

**Contextual**

**Demografisk**

**Psychographic**

**Behavioral –  
"Snowboards"**

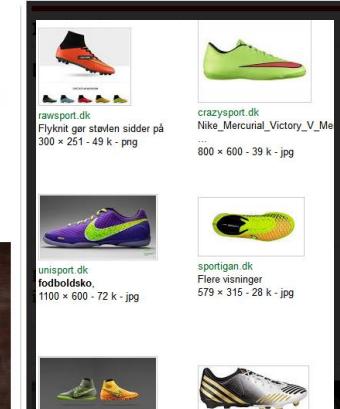
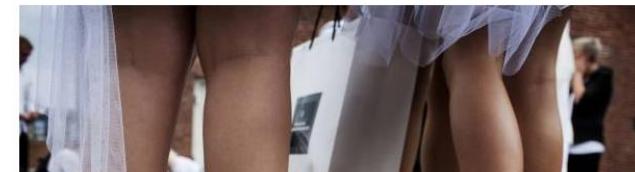
# KULTUR

Film & tv | Musik | Medier | Bøger | Kunst | Arkitektur | Scene | Mode | FOMO | Roskilde Festival

MODE 14. DEC. 2014 KL. 18.02

## Dansk designer vil lave ortopædisk korrekte højhælede sko

I 2015 sender designeren Frederikke Schmidt de første modeller på markedet.



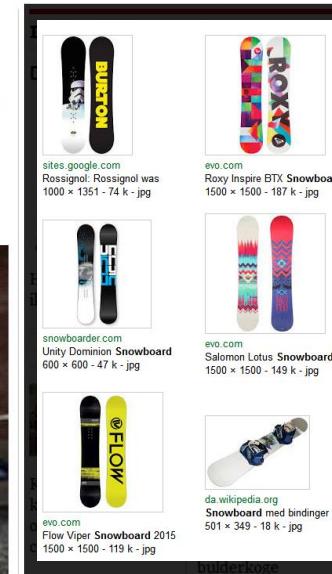
# KULTUR

Film & tv | Musik | Medier | Bøger | Kunst | Arkitektur | Scene | Mode | FOMO | Roskilde Festival

MODE 14. DEC. 2014 KL. 18.02

## Dansk designer vil lave ortopædisk korrekte højhælede sko

I 2015 sender designeren Frederikke Schmidt de første modeller på markedet.



## Privacy – hvad er din værdi?

Op til 10 cents for normal bruger, \$1.50 hvis du  
(f.eks) er gravid

Får hele tiden data: Facebook, Google, Yahoo osv  
Indsamler data: Data aggregatorer

Direkte kontakt til kunden eller ej?



## Profileringen (mange variationer)

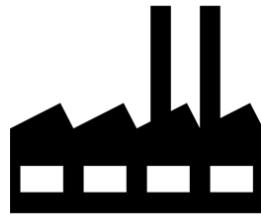
- a) De store platforme kan selv følge din vej igennem internettet (Facebook, Google osv)
- b) 3.party trackers køber sig ind på millioner af hjemmesider
- c) Data aggregatorer køber off-line data og kombinerer med data fra 3.parties

Register sammenkørsel – online og off-line

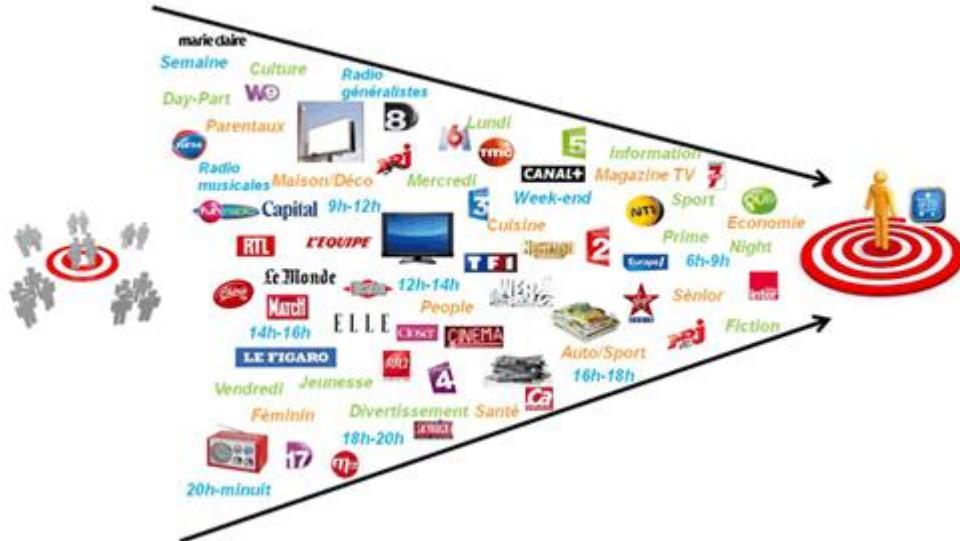


## Tungen lige i munden...

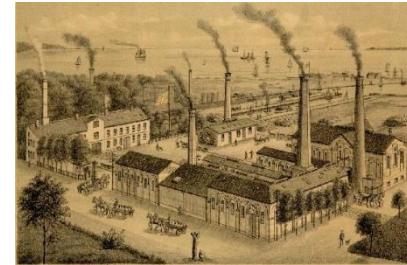
1)



Tusindvis af "3.parties" profilerer individer online og offline



2)

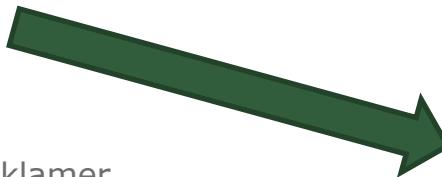
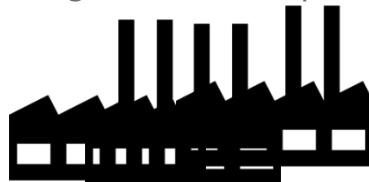


Reklamebureau producerer reklamer  
(+ størrelser, farver, aktive elementer osv osv),  
og definerer målgrupper



## Storindustri

- 3) Reklamebureauer uploader reklamer, målgrupper og sætter makspriser hos DSP



3. Parties stiller deres databaser tilrædighed, normalt upload hver time pga hastighed



DSP – Demand Side Platform,  
auktions-byder

- 4) Reklamebureauer uploader reklamer, målgrupper og sætter makspriser



3. Parties stiller deres databaser tilrædighed, normalt upload hver time pga hastighed



DSP2 – Demand Side Platform,  
auktions-byder

# Millioner af auktioner hvert sekund

5)



Add exchanges udbyder auktioner når  
en side loades



Add exchange identificere brugeren unikt vha ip-adresse, cookies,  
user agent string, device IDs og evt fingerprinting



Reklame for sprogkursus  
til ID: AX67847GBHS  
Byder: \$0.12



Reklame for Nikon D750  
til ID: AX67847GBHS  
Byder: \$0.13



# 100 millisekunder

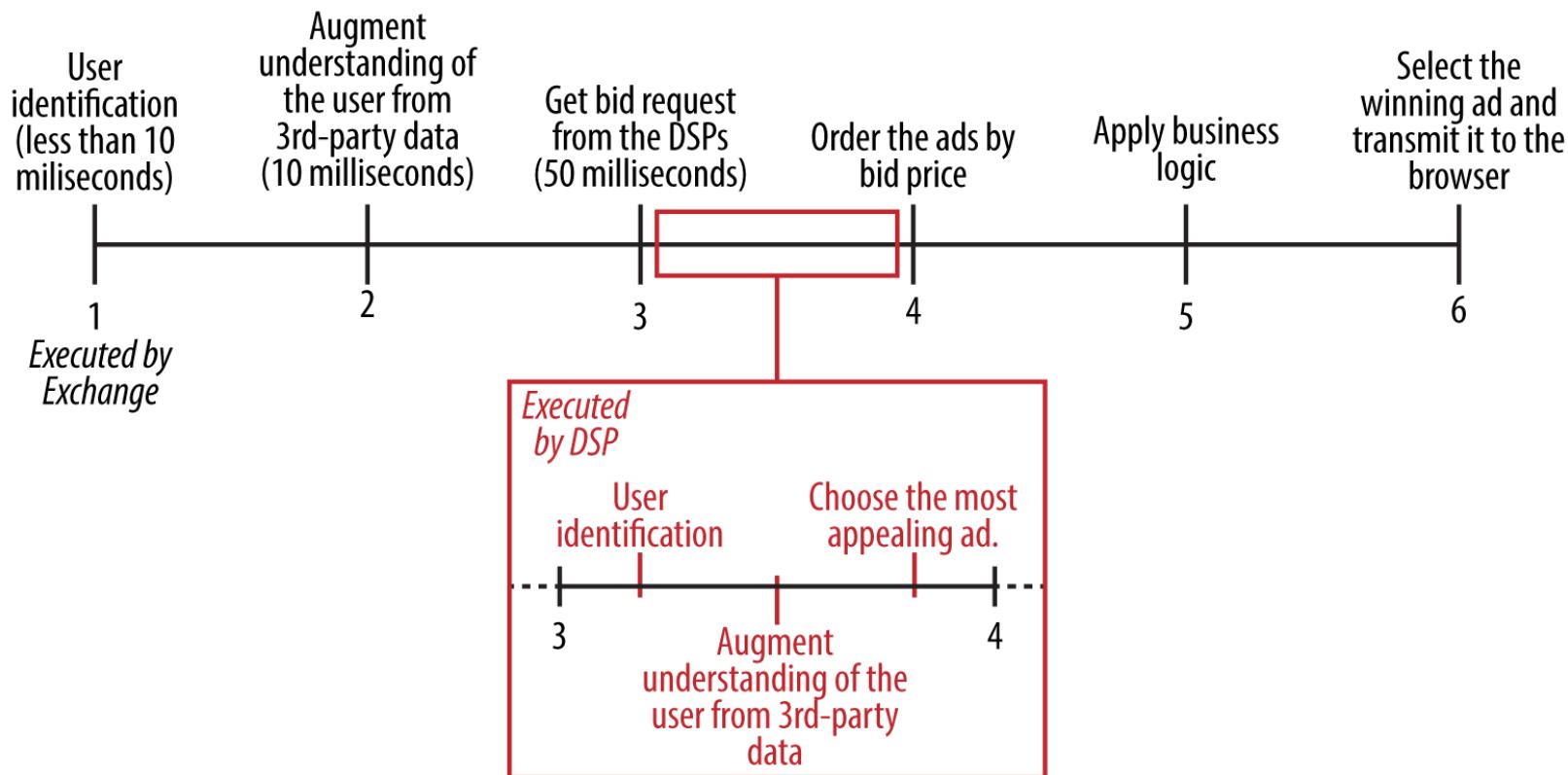


- Bruger indtaster [www.pol.dk](http://www.pol.dk)
- Add exchange identificere brugeren unikt (10 milisek)
- Add exchange beriger data med viden om brugeren (10 ms)
- Add exchange sender info til (typisk 150 forskellige) DSP'er (de får 50 millisekunder til at byde)
- DSP identificerer brugeren igen, typisk hundredevis af lookups
- DSP sender info til 3.parts data-providers
- DSP vælger den bedste reklame de har modtaget fra alle bureauer
- DSP sender én reklame + tilbudte pris
- Add exchange sammenligner priser
- Add exchange checker at den tilbudte reklame overholder sites regler, f.eks. "ingen alkohol", ikke er vist for tit osv
- Vindende reklame vælges og sendes direkte til brugerens browser som del af pol.dk
- (Reklamerne sender info til 3.part osv, osv)

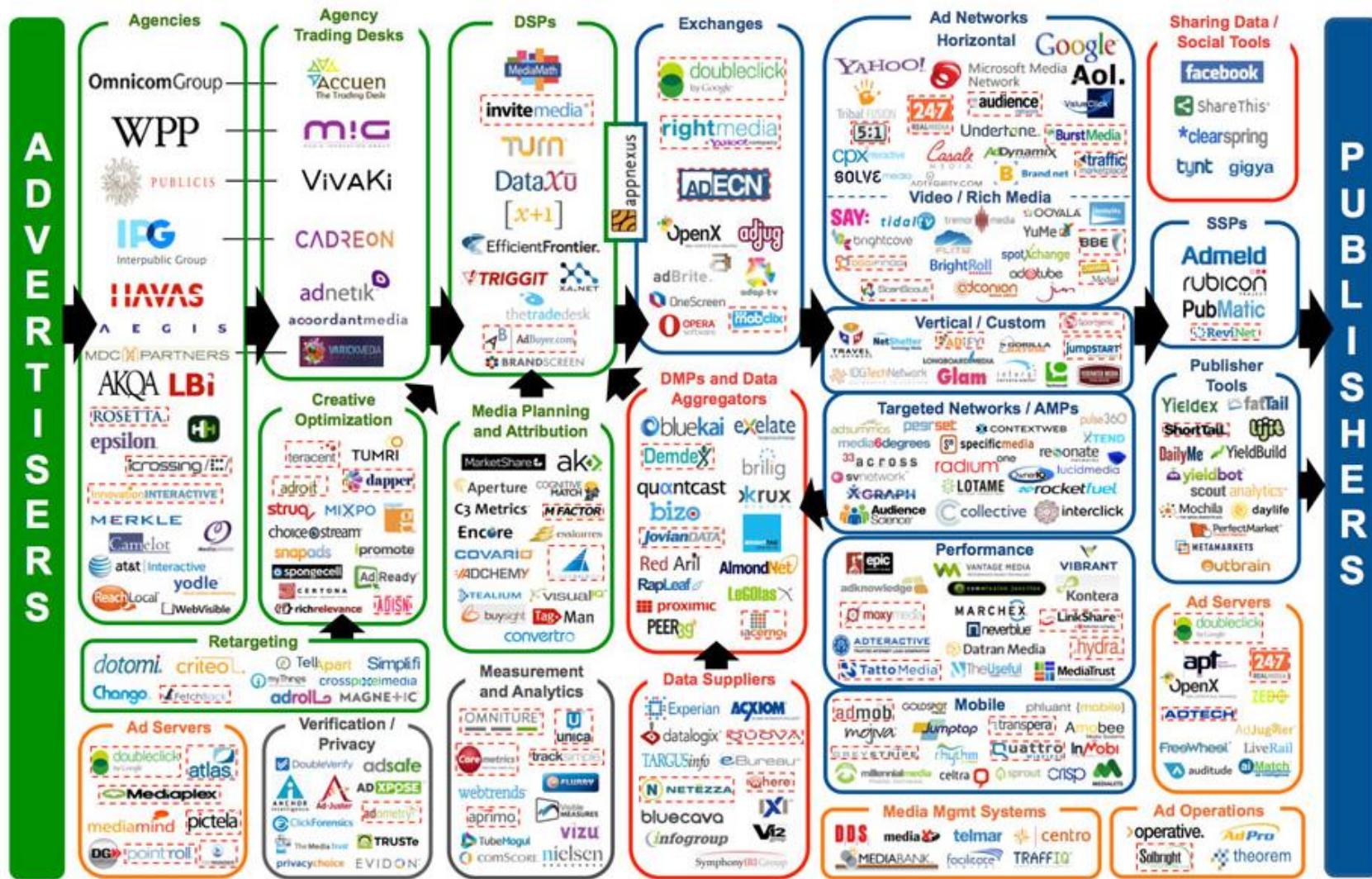


100 millisekunder

(I praksis meget længere tid !)



# Big business



Mange, mange firmaer...

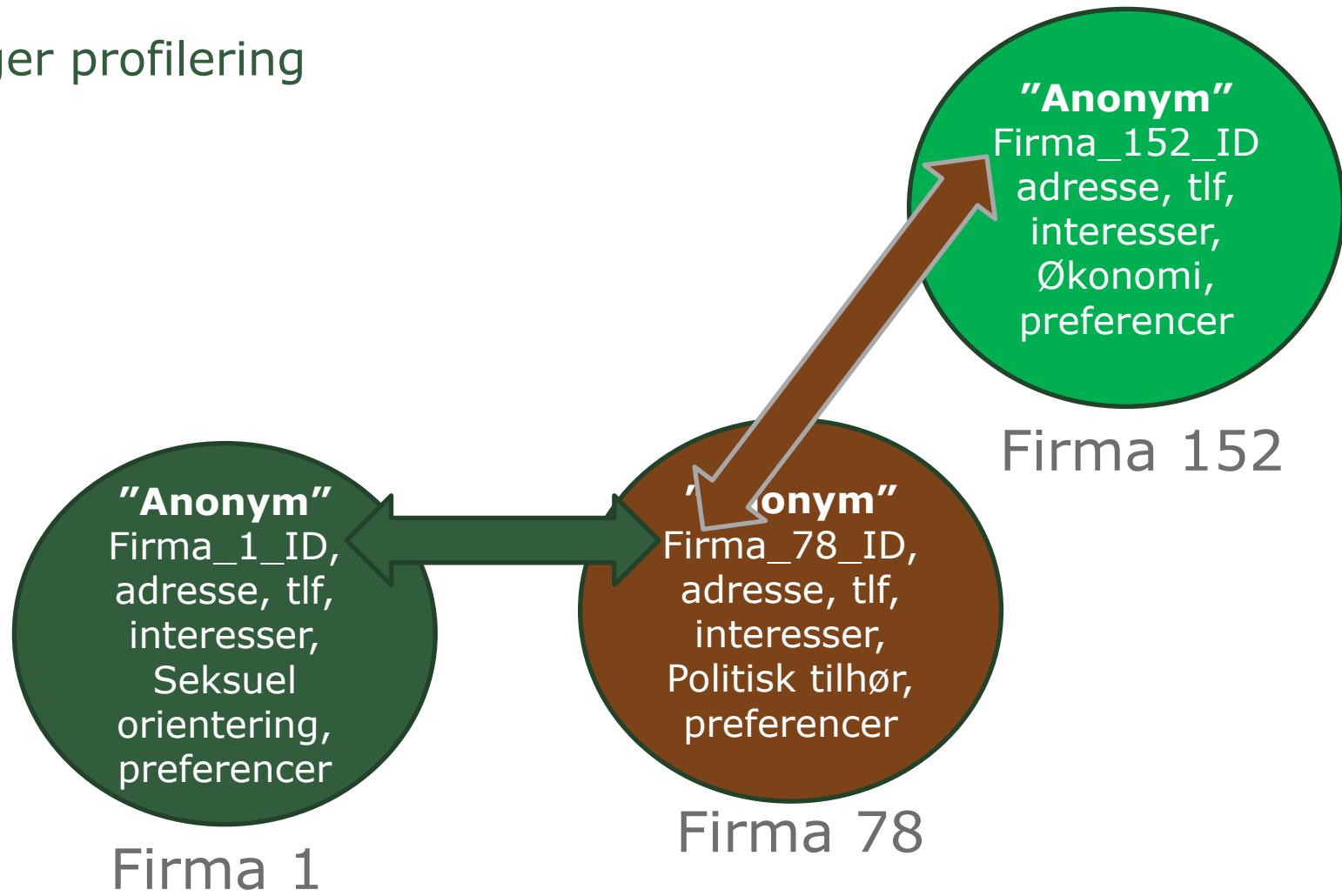
Google har 3000+ "*Certified Google ad networks*"  
Det er muligt for et ad-network at blive sub partner  
til et Certificeret ad netværk...

33Across Inc.  Tynt	Tracking Pixel and Impression/View-Through Tracking	Desktop and Mobile Web	Ad Server Ad Network	Global
33Across Inc.  SSL	Banner	Desktop and Mobile Web	Ad Server Ad Network	Global
3xchange/Hunkal  n_a		Desktop and Mobile Web	Research - Analytics	Global
4WMarketPlace Srl  SSL	Banner	Desktop and Mobile Web	Ad Server Ad Network	Global
A6 Corporation  SSL	Tracking Pixel and Impression/View-Through Tracking	Desktop and Mobile Web	Research - Verification Services	North America
A9.com  SSL	Banner, Standard Image	Mobile App, Desktop and Mobile Web	Ad Server Ad Network	Global
A9.com  SSL	VAST Instream	Desktop and Mobile Web	VAST In-Stream Ad Serving	Global
ANDASH  SSL	Banner	Desktop and Mobile	Ad Server Advertiser	Global

<https://support.google.com/adsense/answer/94149?hl=en>



## Bruger profilering



Du er fuld "anonym" alle steder, og alle steder ved de alt om dig



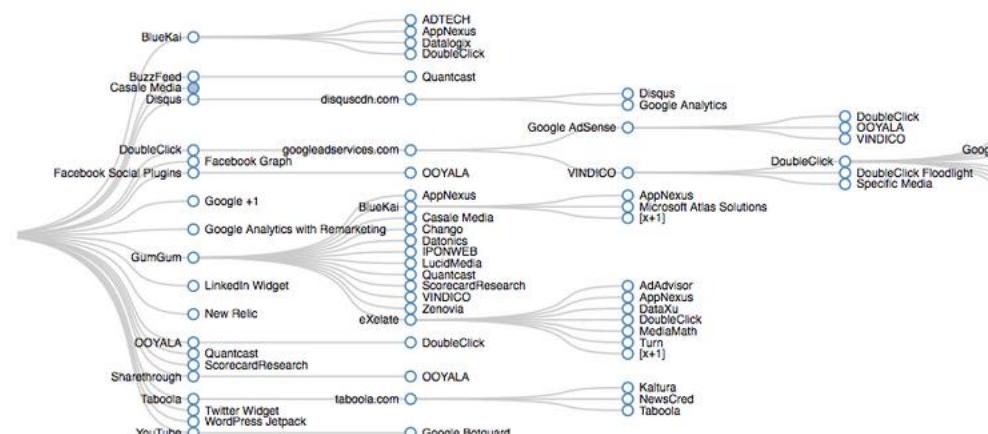
# Mange firmaer, meget data

Taming the Android AppStore:  
 Some applications connect to **almost 2000 different URLs** in a few minutes of execution  
 generate almost no network traffic  
<http://arxiv.org/pdf/1504.06093v2.pdf>



Thanks to GDPR, now we know who  
 PayPal shares data with (600+  
 entities) [rebecca-ricks.com/paypal-data/](http://rebecca-ricks.com/paypal-data/)

Oversæt Tweet:



## Enorme datamængder - Top 100 websites

85% af de mest besøgte websites i verden ved vi ikke, at vi besøger.

19% er tracking domains

10% sider der viser reklamer

35% er sider, der viser reklamer og  
indeholder tracking komponenter

Kun 15% af faktiske top 100 besøges direkte af  
brugerne



## Privacy – "målrettede reklamer"

"Personalize your brushing experience"

# Vil du accepterer firmaerne kender dig personligt?

**iPhone Screenshot**

**TIMER**

1:32  
MIN SEC

ALMOST AT 2:00

**LOCAL WEATHER**

73°  
82° / 64°

**SUMMARY**

REACHED YOUR GOAL  
You Brushed 2:00

No Much Pressure  
Crossed  
Cleaned Tongue  
Rinsed

**Check Your Statistics**

**HAUTE GARONNE - TOULOUSE**

**connectedtoothbrush.com**

Version2 nyheder om it, it-sikkerhed DR Forsiden - TV, Ra... Forum du Musée

REDUCE PRESSURE

MIN SEC

NEWS

Myanmar loans ancient treasures to New York

Apr 8, 2014

Jennie Matthew

NEW YORK (AFP) A landmark exhibition opens in New York next week exploring the ancient kingdoms of Southeast Asia and introducing to the outside world the first treasures from Myanmar seen abroad.

The Metropolitan Museum of Art spent five years preparing the exhibition of Hindu-

**Never miss a post!**

**connectedtoothbrush**

THE FIRST OF ITS KIND WITH BLUETOOTH® CON...

+ Follow

**M. ELECTRATIS SIGILLINUS**

**UNIVERSITATIS VATICANAE**

## Privacy – "målrettede reclamer"

Vil du accepterer firmaerne kender dig personligt?

### Hvad ved Oral-B om dig?

A- eller B-menneske?

Struktureret eller?

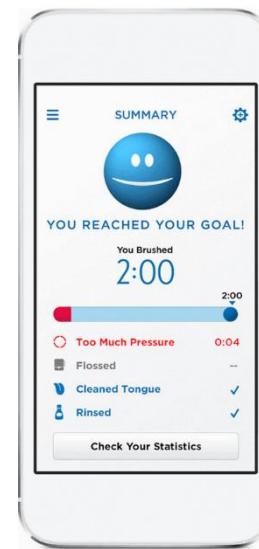
Følger ordre?

Lokation (...)

- Sover hjemme?

Osv, osv, osv

+ 24/7 + andre kilder igennem app-info



It records brushing activity as data that you can chart on your own and share with dental professionals.



## Privacy – "målrettede reklamer"

Vil du accepterer firmaerne kender dig personligt?

**P&G** Investor / Shareholder Relations Careers Partners & Suppliers | WORLDWIDE SITES

- P&G emails you open.

**Information collected through Mobile Applications**

When you download our mobile applications to your mobile device we may also collect information about behaviors you provide. We also automatically collect information through our applications.

The following are examples of the types of information we may automatically collect through our mobile applications:

- Advertising ID or similar identifier.
- Information about your device's operating system.
- Information about the way you use the application.

**Information P&G Collects**

- P&G collects information about you from a variety of sources, including:
  - Information we collect from you directly.
  - Information we collect about you when you call us, visit our sites, use our mobile applications or services, or view our online advertisements.
  - Information we collect about you from other sources, such as commercially available sources.
- All the information P&G collects about you may be combined to improve our communications with you, and to develop world-class products and services.

**Uses / Information Sharing**

- P&G uses the information we collect for P&G business purposes such as:
  - To provide the products and services you request.

Click here for more information

No items selected

- All of Lifestyles
- Affluent baby boomers provided by Datalogix
- Arts provided by Acxiom
- Auto enthusiasts provided by Datalogix
- Big city moms



## Privacy – "målrettede reklamer"

# Vil du accepterer firmaerne kender dig personligt?

**Oral-B App**  
Procter & Gamble Productions

**Version 2.0.0 har adgang til:**

- Kontaktpersoner/kalender
  - læse kalenderbegivenheder samt fortrolige oplysninger
- Placering
  - omrentlig placering (netværksbaseret)
  - præcis placering (GPS- og netværksbaseret)
- Billeder/medier/filer
  - test adgangen til beskyttet lagring

Oral-B App-opdateringer kan automatisk give hver gruppe flere tilladelser. [Få flere oplysninger](#)

**Oral-B App**  
Procter & Gamble Productions

**Billeder/medier/filer**

- test adgangen til beskyttet lagring

**Kamera/mikrofon**

- optage lyd

**Andet**

- parre med Bluetooth-enheder
- få adgang til Bluetooth-indstillinger
- fuld netværksadgang
- se netværksforbindelser

Oral-B App-opdateringer kan automatisk give hver gruppe flere tilladelser. [Få flere oplysninger](#)

Luk

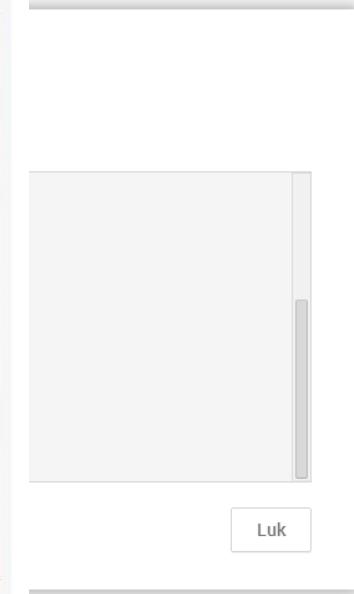


## Privacy – "målrettede reklamer"

Vil du accepterer firmaerne kender dig personligt?



Location  
Kalender  
Brug af mobil  
Brug af apps



## Privacy – "målrettede reklamer"

# Vil du accepterer firmaerne kender dig personligt?

**Unilever:**

"We're not just collecting and analyzing; we're looking at a shopper in a fundamentally different way. We've always said we want a 360-degree view of a shopper, but the one we typically talk about is relatively static," he

noted. "When you start to think about behavioral changes — what is that shopper's journey throughout the day? — you begin to understand that this is a much more powerful concept than just knowing who somebody is."

It also allows the firm to create user experiences that are much more tailored to a single individual's experience than they are today. "The future is personalization on a one-to-one scale," Straton said. "Content on Dove skincare would be very different for a male who lives in New York City than it would be for a female in San Francisco. Literally, in four or five years, I think that type of interaction with a consumer will happen, and it can [only do that] with analytics on top of real-time data."



## Privacy – "målrettede reklamer"

# Vil du accepterer firmaerne kender dig personligt?

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## Anonym data

“None of these companies really wants to identify who we are — they just want to get us the sports equipment or gadget we like.

In short, [they] are uninterested in personally identifying information such as your name”

(gælder ikke nødvendigvis 3.parties)



## Anonym data



Vi ved ikke hvem du er, kun dit telefonnummer, adresse, mail, køn, alder, indkomst, uddannelse, seksuelle orientering, antal søskende, om du kan lide Pepsi eller Coca Cola, om du er introvert eller ekstrovert, hvem dine nærmeste venner er, hvad du vil snart vil købe – og 1000vis af andre datapunkter om dig



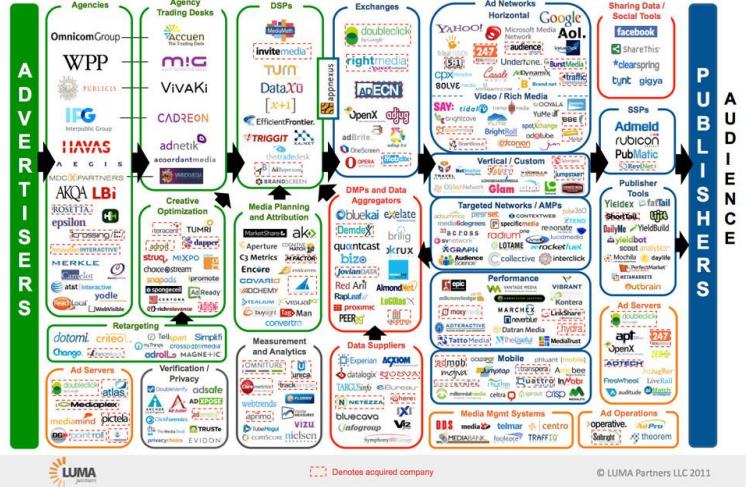
## Hvad sker der i praksis – Hvad er problemet?

Men det er jo bare et ID de får og nogle sider jeg har set på nettet får jo ikke mit navn.

Jeg *vil* jo købe et kamera...



## Et sikkerhedsproblem



- Web reklamer er software. De eksekverer kode på din computer - og scripts i din browser
- Databaser superoptimeret for hastighed, garanteret ikke for sikkerhed
- Reklamefirmaerne bliver jævnligt hacket - effektiv vej ind i ellers svære mål



## Et sikkerhedsproblem

Politiken

# Danmark

Kommunalvalg Politik Vejret Uddannelse Samfund Ungdomsuddannelser

Annonce

DANMARK 14. DEC. 2007 KL. 18.03

## Virus på Ekstra Bladet skyldes manglende sikkerhed

Virus blev spredt via falske annoncer for velrenommerede firmaer.

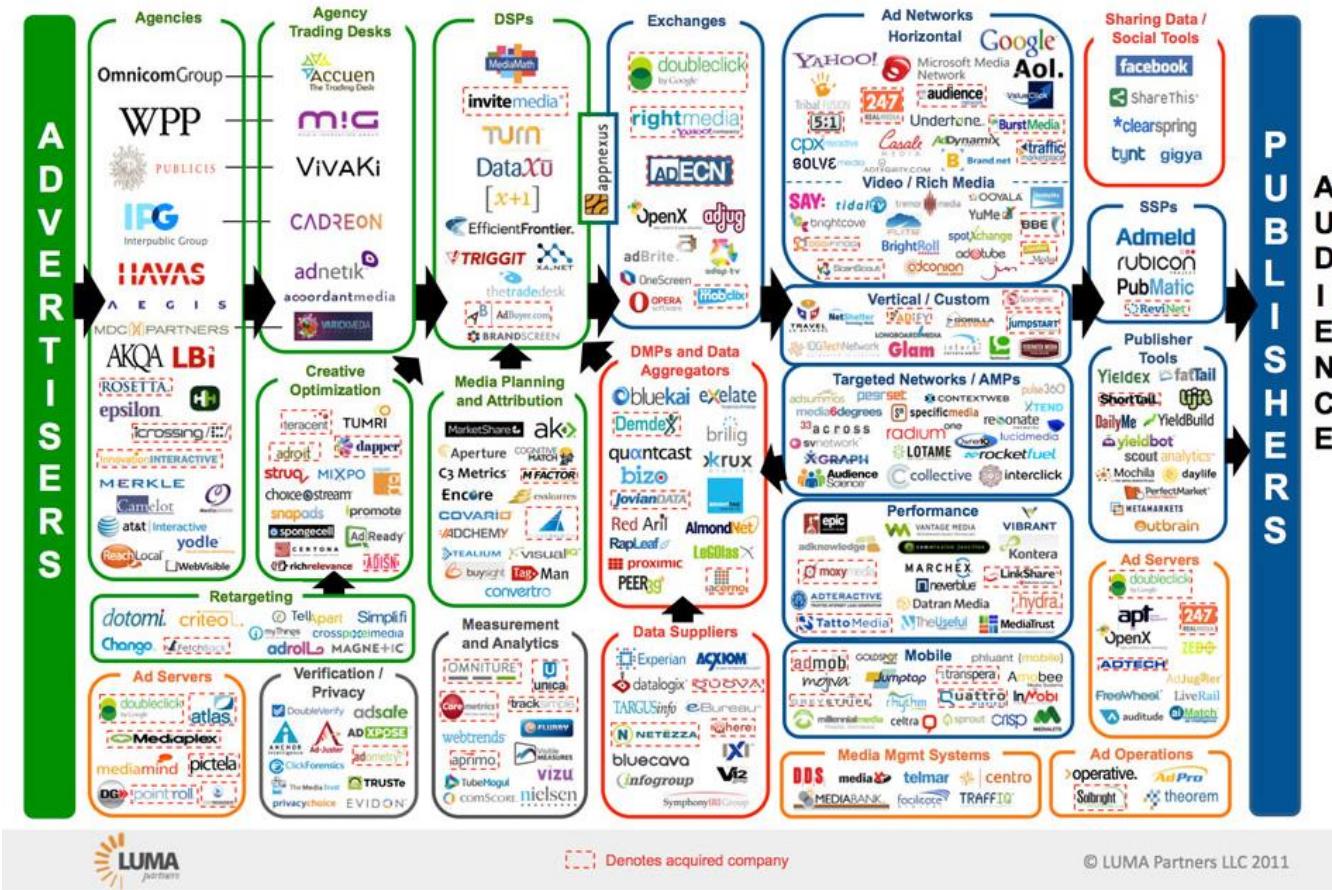
Berlingske Media er heller ikke ansvarlig for, og påtager sig ikke erstatningspligt for, skader eller virus, der inficerer dit computerudstyr eller anden ejendom på grund af din adgang til, brug af hjemmesiden. Det samme gælder for din eventuelle downloading af tekst, billeder, materiale, data, video eller lyde fra hjemmesiden.

IT-direktør i JP/Politikens Hus Per Palmkvist Knudsen fortæller, at Ekstra Bladets hjemmeside blev angrebet af en såkaldt »injection virus«, hvor man ikke behøver at klikke på banneret for at blive berørt af virusen, men bare skal bevæge sig ind på siden.

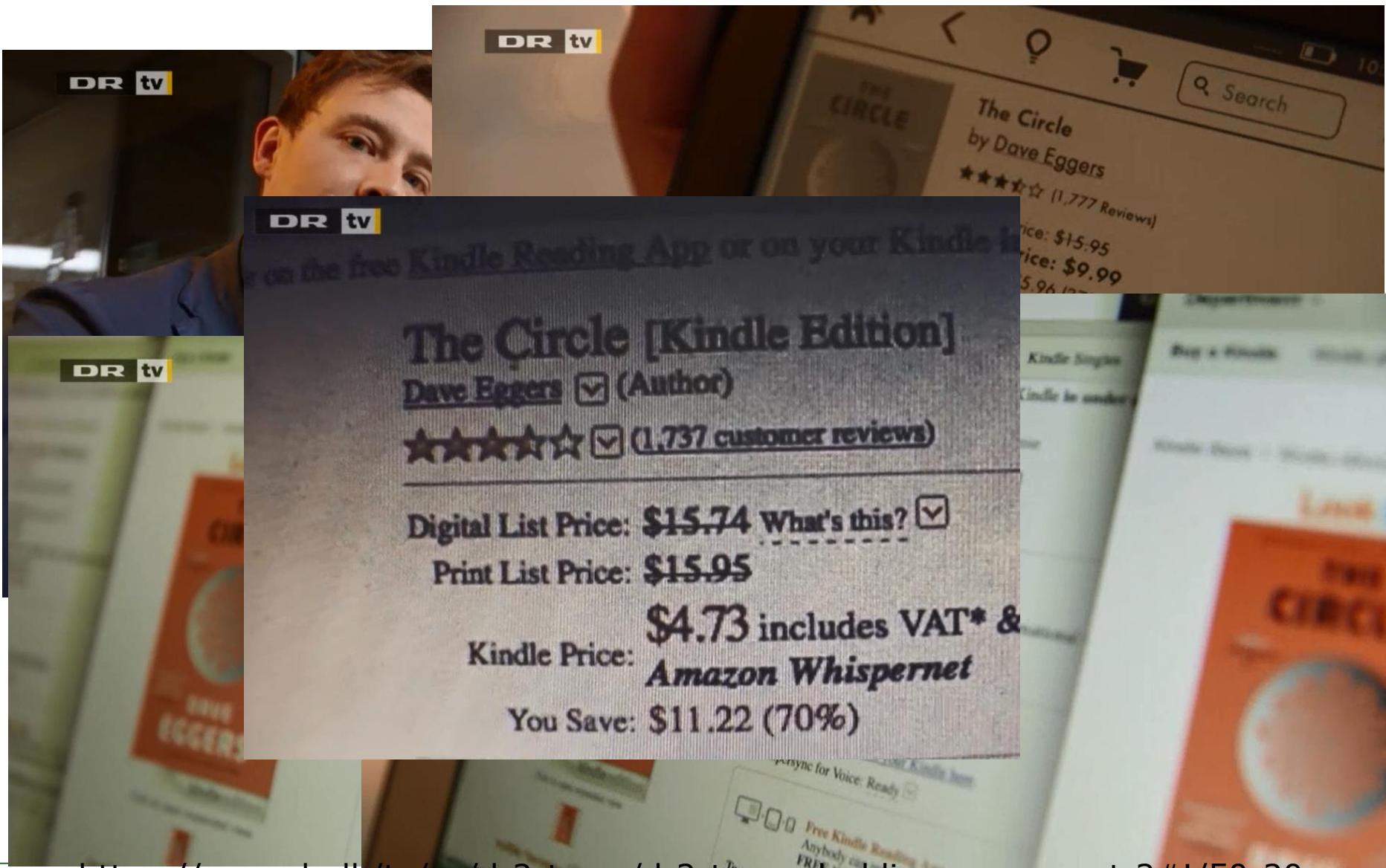


# Problemer?

## Højere priser



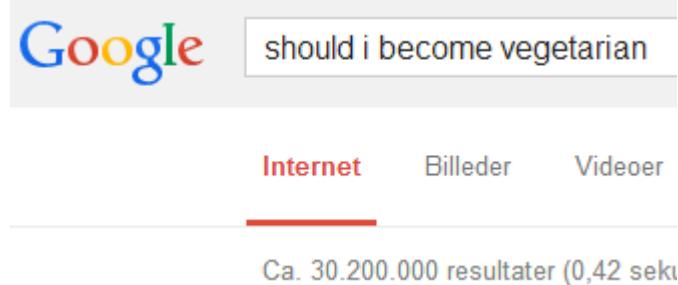
## Bruger profilering og pris differentiering



## Problemer?

Når man afslører at en - tidligere stabil - del af livsstilen kan ændres

Kamp om din sjæl (eller tegnebog)



A screenshot of a Google search results page. The search query "should i become vegetarian" is entered in the search bar. Below the search bar, there are three navigation links: "Internet" (highlighted in red), "Billeder", and "Videoer". At the bottom, it shows "Ca. 30.200.000 resultater (0,42 sek.)".



A screenshot of an advertisement for Jensen's Bøghus. The headline reads "Vind en middag for to" (Win a meal for two). It encourages users to "Tilmeld dig vores nyhedsservice og få nyheder, tilbud og konkurrencer i din indbakke. Du deltager samtidig i konkurrencen om en middag for to på Jensen's Bøghus!". A large image of a meal consisting of a steak, vegetables, and fries is shown. A red "X" button is visible in the top left corner of the ad.



## Hvornår er du mest modtagelig?

"Persuasion profiles" – hvordan kan du bedst overtales til at købe - hvornår er man mest sårbar/modtagelig

- Flybillet til en ferie eller besøge sin syge mor
  - Benzinpris - er man lige ved at løbe tør eller kan man køre langt endnu
  - Uber og batteri
- => forskellige priser

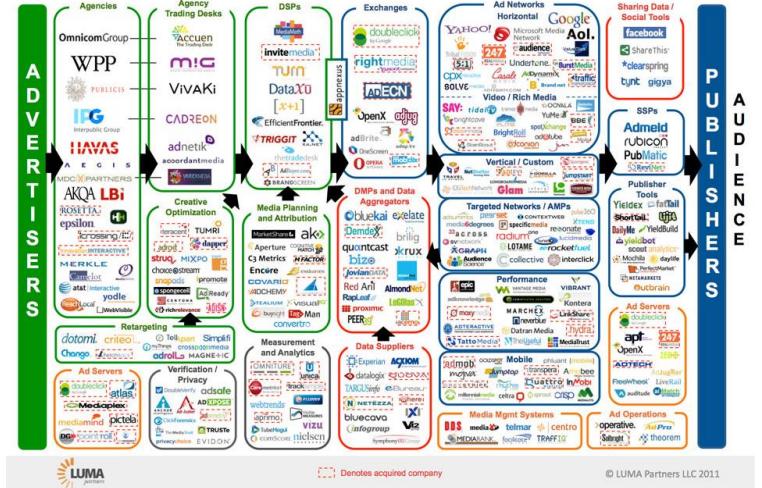


Ryan Calo @rcalo · 2 hrs

"I don't want a company to figure out how to get me to drink soda in the morning." Jill Dupre #flatirons



# Omkostninger



- Publishers, dvs siderne reklamerne vises på, mister (mange) penge til reklame-økosystemet
- Datatrafik og meget langsommere sider ("AngryBirds data usage drop from 5MB to 50k when ads are disabled")  
("University Rolls Out Adblock Plus, Saves 40 Percent Network Bandwidth")



## Bruger profilering

- Er det ok, reklamefolk ved hvornår jeg er mest sårbar?
- Hvornår jeg er lettest at påvirke?
- Har de ret til at få mig til at drikke mere Cola?
- Er det ok Unilever og 1000vis af andre firmaer ved alt om min "journey throughout the day" med "realtime data" om mine "behavioral changes"?
- Personlig data om dig spredt i tusinder af firmaer – i hele verden

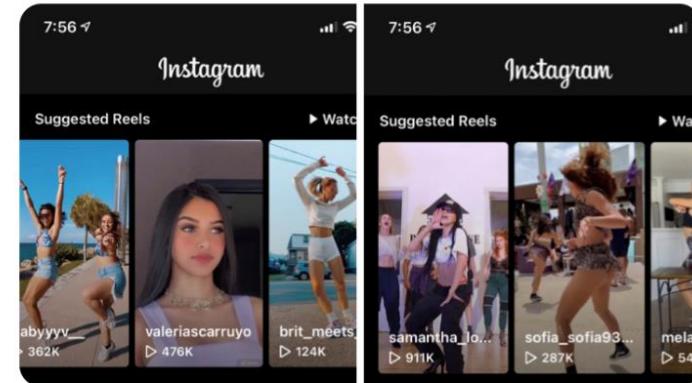


David Lieb 🤝 🇺🇸 ✅  
@dflieb

My Instagram Reels suggestions are literally 100% scantily-clad girls dancing.

I'm not sure this is good for the world.

Oversæt Tweet



05.00 · 10.10.2020 · Twitter for iPhone

64 Retweets 247 citat-Tweets 1.516 likes



## Udfordringerne

Højere priser

Har man lyst til at tusindvis af firmer ved ekstremt detaljeret information om os?

Sikkerhedsproblem - virksomheder kan hackes eller miste data - detaljeret information spredt

Lovkrav



Touch-back til programmer mm

**HTTPS:** Encrypts traffic to/from a specific website

**VPN:** Encrypts traffic to/from your (trusted) VPN provider

**Tor:** Tries to anonymize your traffic



## Privacy enhancing tools – personlig brug

- Duckduckgo (and other) search engines
- “In-private/private browsing”
- Ad blockers

Beskyttelse imod reklame netværk?



Privacy/Data protection – 2.del:  
forelæsning på fredag d.28/10

GDPR, Privacy Enhancing Technologies m.m.



# IT Security Usability

My sister mistook Chrome's red lock icon for a red purse. And you know what... she's totally right. So. Goddamn.

Adrienne Porter  
Felt  
@\_apf\_

[@\\_apf\\_](#)

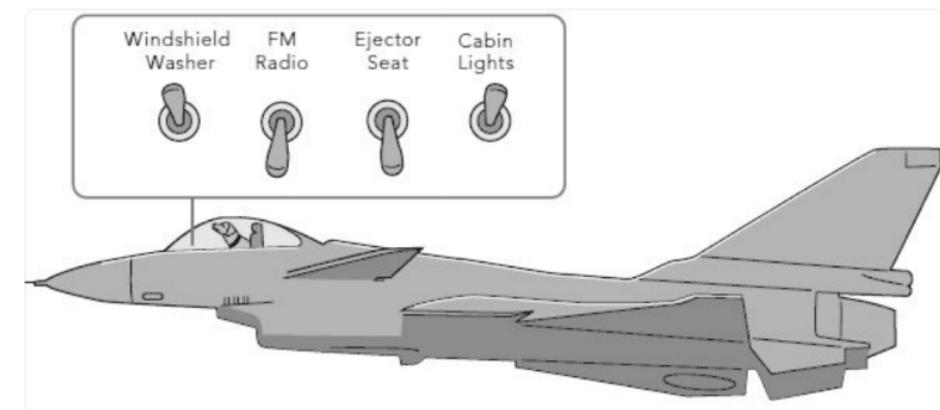
more colors



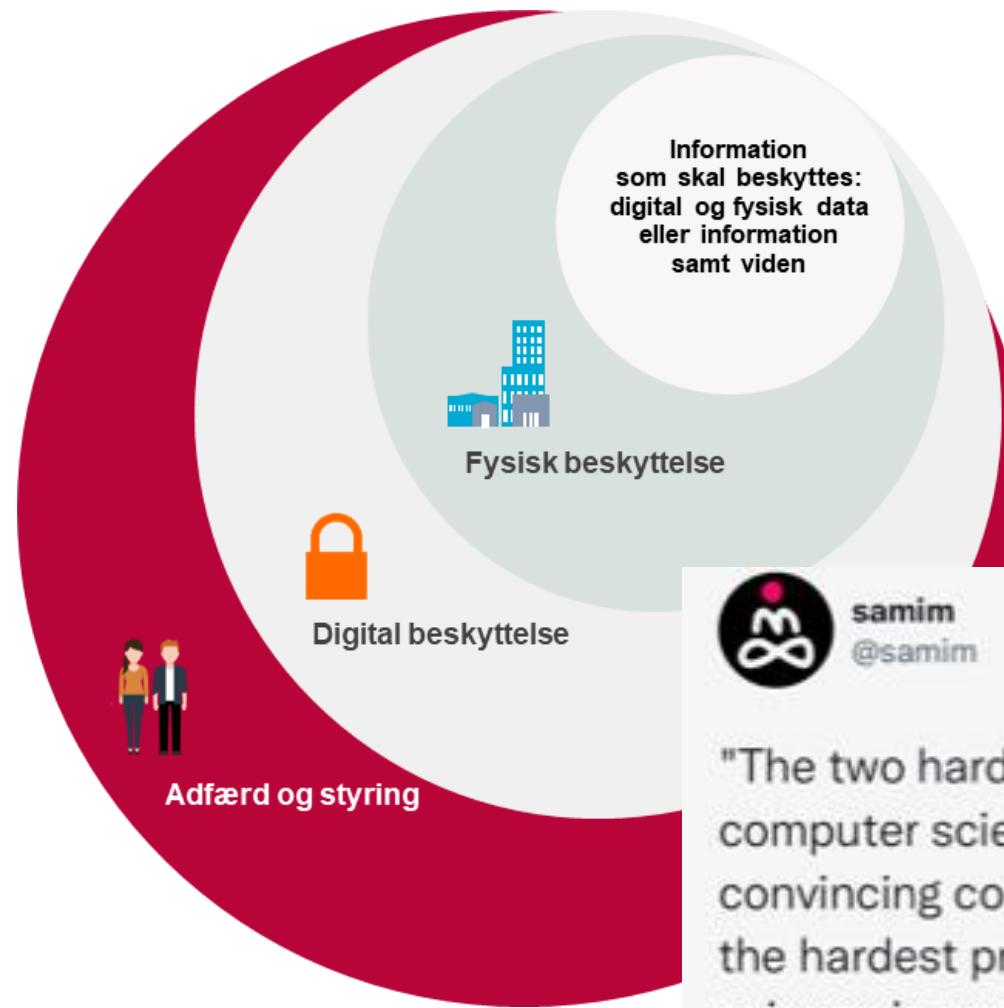
## Usability er altid vigtigt

The [#Hawaii](#) alert system was activated by a dropdown with “test missile alert” and “missile alert” next to each other. Confusing labeling aside, this is an example of [@MrAlanCooper](#)’s UI axiom (paraphrased) “Don’t put the ejection seat button near less consequential stuff.”

Oversæt fra engelsk



# Usability er altid vigtigt – og især indenfor sikkerhed og privacy



"The two hardest problems in computer science are: (i) people, (ii), convincing computer scientists that the hardest problem in computer science is people, and, (iii) off by one errors." - Jeffrey P. Bigham

# Usability and Psychology

- Hvor mange af jer bruger mail kryptering ?  
(PGP/GPG etc)



# Usability and Psychology

 Retweeted by Matthew Green

 **zooko** @zooko · 13h

Schneier: "the lesson from 30 years of PGP is that 1 click for encryption is 1 click too many."

[Collapse](#) [Reply](#) [Retweet](#) [Favorite](#) [More](#)

---

RETWEETS FAVORITES

**106** **35**



8:52 PM - 27 Feb 2014 · Details

 58

**Wingdings vs PGP**

submitted 2 days ago by [sktrollex](#)

Does anyone have a comprehensive list of the pros/cons of Wingdings vs PGP?

Installation isn't a problem - I just got bought a laptop so can install my own stuff.

[34 comments](#) [source](#) [share](#) [save](#) [hide](#) [give gold](#) [report](#) [hide all child comments](#) [buffer](#)

Usability >< manglende viden



# Usability and Psychology

- Security is hard – unmotivated users, abstract security policies, lack of feedback ...
- Much better to have **safe defaults** (e.g. encrypt and sign everything)
- But **economics** often push the other way ...



# Usability and Psychology

- Specikke brugere
- Specikke mål
- Specifikke omgivelser (kontekst og risk model)

Hastighed  
Bruger preferencer

Observer mennesker, mange metoder

the grugq retweeted

**scientism** @mr\_scientism · Apr 30

"A/B testing showed people stay on the site 15% longer if it's harder to figure out where stuff is." - "Well, you can't argue with data."

178 105

View conversation



# Usability and Psychology

## Mentale modeller

User model >< designer model = Samme system  
(Rejsekortet)

Hvem er brugere og hvor kommer de til at bruge din applikation



# Brugerens mentale model

The image shows a split-screen view. On the left, a screenshot of a Google search results page for the query "dansende panda". The results include a section for "Billeder af dansende panda" with several image thumbnails, a "Videoer" section with video thumbnails, and a "Dansende panda" video from YouTube by B Karso. On the right, a screenshot of a Google privacy consent screen titled "Inden du fortsætter". It contains text about Google's data protection policy changes, icons for Google services (Chrome, YouTube, Google Maps), and a "NÆSTE" (Next) button.

dansende panda

Alle Billeder Videoer Shopping

Ca. 1.470.000 resultater (0,29 sekunder)

Billeder af dansende panda

→ Flere billeder af dansende panda

Videoer

Dansende panda

B Karso  
YouTube - 23. feb. 2015

Dancing P

Cy Shimizu  
YouTube - 30. jan. 2015

Google

Dansk

Inden du fortsætter

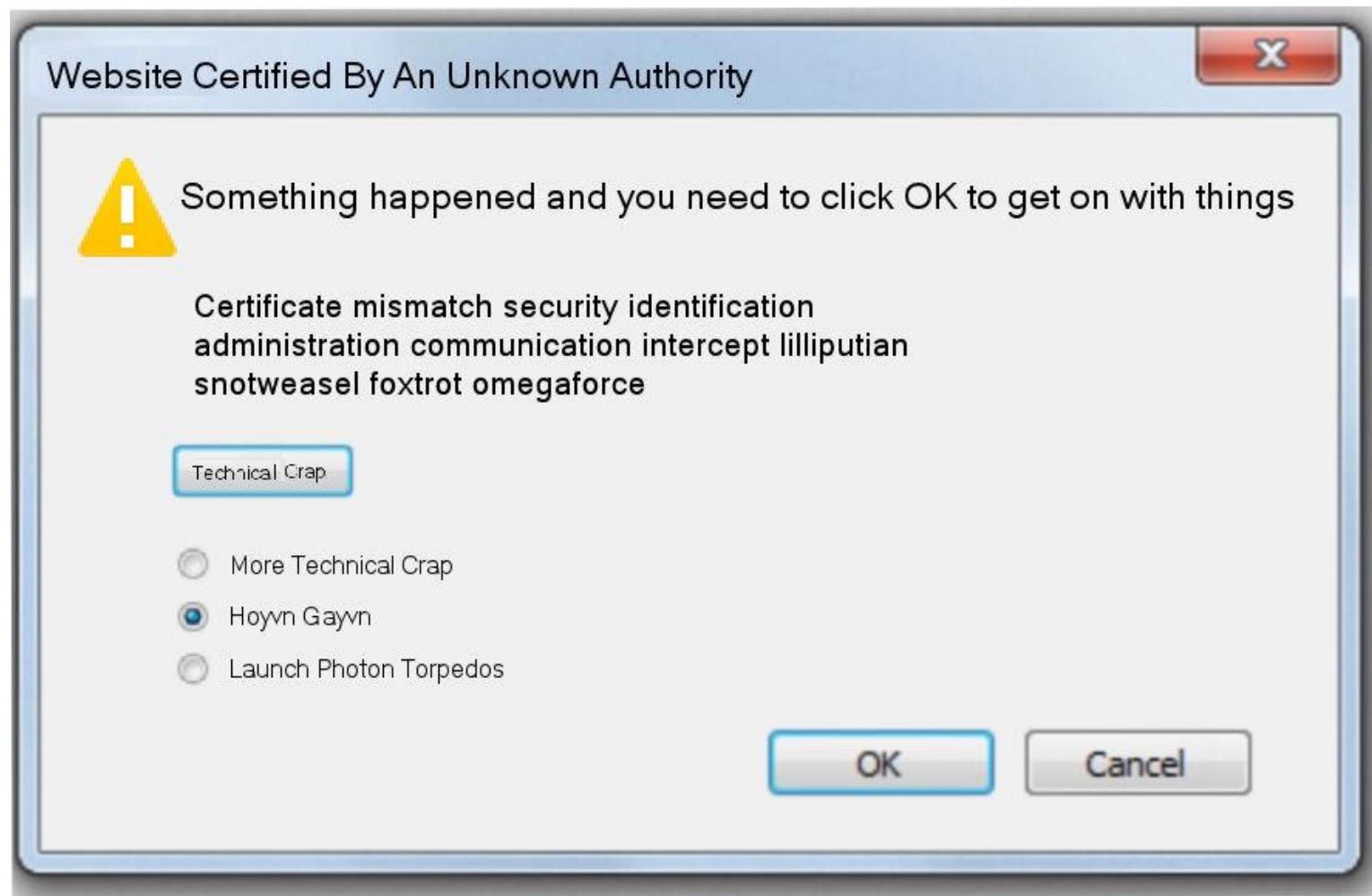
For at overholde lovgivningen om databaseskyttelse beder vi dig om at gennemgå de vigtigste punkter i Googles privatlivspolitik. Det er ikke, fordi vi har ændret noget – det er blot en mulighed for at se de vigtigste punkter.

Dette er nødvendigt, for at du kan fortsætte med at bruge Google-tjenester.

NÆSTE



# Usability and Psychology



# Usability and Psychology

## Usability/cookies:

Users mental model når de går ind på en hjemmeside  
er ikke privacy

Overvej hvad users expectations er når de går ind på  
hjemmesiden/bruger jeres app

Privacy er en "secondary task" for brugeren, det er  
ikke derfor de er på hjemmesiden - de vil forsøge at  
undgår/omgå secondary tasks

Vis ikke mere info end er brugbar for brugeren  
– dvs ikke alt cookie info, kun relevant eller  
selvvalgt...

## Usability and Psychology - nudging

Brug af viden om menneskelige tankegang til at få mennesker til at tage "det rigtige" valg

Mennesker vælger ofte det, der er nemmest og det, der ligge lige for

Sikkerheds nudging kan f.eks. være

Defaults

Path of least resistance

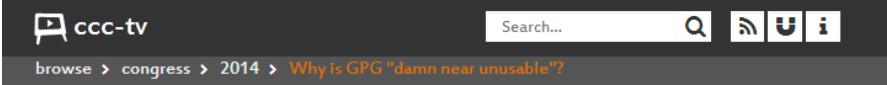
Just in time

Feedback

osv, osv



## Links



The screenshot shows the CCC-TV website interface. At the top, there's a dark header with the 'ccc-tv' logo, a search bar containing 'Search...', and icons for RSS, user profile, and information. Below the header, a breadcrumb navigation shows 'browse > congress > 2014 > Why is GPG "damn near unusable?"'. The main content area features a large video thumbnail with a play button in the center. The video title is 'Why is GPG "damn near unusable?"' and the subtitle is 'An overview of usable security research'. Below the video, it says 'Arne Padmos' and has tabs for 'Video', 'Audio', 'Download', and 'Share'. A quote at the bottom of the video frame reads: 'We don't want a high priesthood of technology.'

[http://media.ccc.de/browse/congress/2014/31c3\\_-\\_6021\\_-\\_en\\_-\\_saal\\_g\\_-\\_201412281130\\_-\\_why\\_is\\_gpg\\_damn\\_near\\_unusable\\_-\\_arne\\_padmos.html#video](http://media.ccc.de/browse/congress/2014/31c3_-_6021_-_en_-_saal_g_-_201412281130_-_why_is_gpg_damn_near_unusable_-_arne_padmos.html#video)



# Links

**coursera**

Courses Specializations Institutions About Log In Sign Up

 UNIVERSITY OF MARYLAND

## Usable Security

Part of the [Cybersecurity Specialization](#) »

This course focuses on how to design and build secure systems with a human-centric focus. We will look at basic principles of human-computer interaction, and apply these insights to the design of secure systems with the goal of developing security measures that respect human performance and their goals within a system.



**About the Course**

In many systems, human users are a critical part of the security process. They create passwords, follow security protocols, and share information that can maintain or destroy the security of a system. However, many secure systems are designed with little to no attention paid to people's cognitive abilities, workflow, or tasks. As a result, people find ways around the security obstacles that get in the way of their work.

This course focuses on how to design and build secure systems with a human-centric focus. We will look at basic principles of human-computer interaction, including the basics of humans' cognitive abilities, principles of usability, design techniques, and evaluation methods. We will then apply these insights to the design of secure systems with the goal of developing security measures that respect human performance and their goals within a system.

Through hands-on exercises designing, building, evaluating, and critiquing systems, students will learn how to integrate usability into secure software. The course will specifically focus on authentication mechanisms, browsing security, privacy and social media, and mobile security.

**Sessions**

Future Sessions

Add to Watchlist

**Course at a Glance**

- ⌚ 3-5 hours/week
- 🌐 English

**Instructors**

 **Jennifer Golbeck**  
University of Maryland, College Park

<https://www.coursera.org/course/usablesec>



# Links

## Usable security reading list

A starter guide by felt@

[Introduction](#)

[Reading list](#)

[How users think about security](#)

[Warning overexposure](#)

[Phishing](#)

[Permissions](#)

[SSL and encryption](#)

[Going meta \(methodology\)](#)

### Introduction

This is a reading list for people who want an overview of usable security. It highlights work that I consider seminal or useful on a daily basis as an engineer in this field.

#### Short on time?

I've marked my very favorite papers with \*\*. Those might be a good place to start.

#### New to academic literature?

Here's how to read these papers:

1. *Skim judiciously.* Academic papers are highly structured, and you do not need to read linearly. You can get the key ideas of most papers just by reading the introduction, limitation, and discussion sections. After that, dive deeper into the other sections if you're interested.

[https://docs.google.com/document/d/1N5uTePbaHGGz70nX5zc28Cil026f80oR\\_ypAxo5ar40/edit?pli=1](https://docs.google.com/document/d/1N5uTePbaHGGz70nX5zc28Cil026f80oR_ypAxo5ar40/edit?pli=1)



# Spørgsmål?



@星星的座标

weloo.com/u/1549575120